

United States Environmental
Protection Agency

Region 8
1595 Wynkoop St.
Denver, CO 80202

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FINAL Environmental Assessment (EA)

National Pollutant Discharge Elimination System
(NPDES) Permit for Maher Cattle Company, LLC

Abbreviations Used in this Document

Abbreviation	Definition
APE	Area of Potential Effect
BMPs	Best Management Practices
BOD	Biochemical oxygen demand
CAA	Clean Air Act
CAFO	Concentrated animal feeding operation
C.F.R.	Code of Federal Regulations
CO	Carbon monoxide
CWA	Clean Water Act
DO	Dissolved oxygen
EA	Environmental Assessment
EIS	Environmental Impact Statement
EPA or Agency	U.S. Environmental Protection Agency
ESA	Endangered Species Act
<i>E. Coli</i>	<i>Escherichia coli</i>
FONSI	Finding of No Significant Impact
FR	Federal Register
FWS	U.S. Fish and Wildlife Service
IPaC	Information for Planning and Conservation
L	Liter
mg	Milligrams
mL	Milliliters
Maher or Facility	Maher Cattle Company, LLC
NAAQS	National Ambient Air Quality Standards
NEPA	National Environmental Policy Act
ND	Non-detect (less than the analytical detection limit)
NHPA	National Historic Preservation Act of 1966
NMP	Nutrient management plan
NO ₂	Oxides of nitrogen measured as nitrogen dioxide
NPDES	National Pollutant Discharge Elimination System
NRCS	National Resources Conservation Service
PM ₁₀	Particulate matter with an aerodynamic diameter less than or equal to 10 microns
PM _{2.5}	Particulate matter with an aerodynamic diameter less than or equal to 2.5 microns
SO ₂	Sulfur dioxide
THPO	Tribal Historic Preservation Officer
TKN	Total Kjeldahl nitrogen
TP	Total phosphorus

TSS	Total suspended solids
U.S.C.	United States Code
USGS	United States Geological Survey
WQP	Water Quality Portal

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1 Introduction

Mahe Cattle Company, LLC, (Mahe or Facility) is a concentrated animal feeding operation (CAFO) located within the exterior boundaries of the Standing Rock Indian Reservation, near Timber Lake, South Dakota (latitude 45.504936 and longitude -101.157025). The U.S. Environmental Protection Agency (EPA or Agency) is responsible for implementing the Clean Water Act (CWA) National Pollutant Discharge Elimination System (NPDES) program on Indian country lands (as defined at 18 U.S.C. § 1151) in North Dakota and South Dakota, including within the exterior boundaries of the Standing Rock Indian Reservation. Mahe applied to the EPA for an NPDES permit for the discharge of pollutants into waters of the U.S. from the Facility. As discussed below, EPA's decision whether to issue a CWA NPDES permit to Mahe is subject to the environmental review requirements of the National Environmental Policy Act (NEPA). 42 U.S.C. § 4321 et seq., CWA section 511(c)(1), 33 U.S.C. § 1371(c)(1). The EPA prepared this Environmental Assessment (EA) in order to evaluate the environmental impacts associated with the proposed NPDES permitting action and to determine whether a finding of no significant impact is warranted or whether preparation of an environmental impact statement is necessary. NEPA § 106(b)(2), 42 U.S.C. § 4336(b)(2); 40 C.F.R. §§ 6.205(a), (b)(2).

1.1 Statutory and Regulatory Background

The Clean Water Act prohibits the discharge of "pollutants" through a "point source" into a "water of the United States" without an NPDES permit. CWA Sections 301 and 402, 33 U.S.C. §§ 1311 and 1342. In accordance with 40 C.F.R. § 122.21(l)(2)(ii), the EPA determined that the Mahe Facility is a "new source." Specifically, the Facility meets the definition of a "new source" in 40 C.F.R. § 122.2, which includes any facility from which there is or may be a discharge of pollutants and which was built after the EPA issued standards of performance under section 306 of the CWA that apply to that source. The issuance of an NPDES permit to a new source is subject to environmental review pursuant to NEPA. An EA is prepared to evaluate the environmental impacts of federal action and to determine whether a finding of no significant impact is warranted or whether preparation of an environmental impact statement is necessary. NEPA § 106(b)(2), 42 U.S.C. § 4336(b)(2); 40 C.F.R. §§ 6.205(a), (b)(2).

CAFOs are prohibited from discharging manure, litter, or processing wastewater pollutants from the production area, except in compliance with the conditions of an NPDES permit. Pursuant to applicable EPA CAFO NPDES regulations at 40 C.F.R. Part 412, CAFO NPDES permits generally include effluent limitations for process wastewater discharges from the CAFO's production area and land application areas. Specifically, if precipitation causes a discharge of manure, litter, or process wastewater from a permitted CAFO, such discharge is exempt from the no-discharge limitation provided the production area was designed, constructed, operated, and maintained to contain all manure, litter, and process wastewater including the runoff and direct precipitation from a 25-year, 24-hour rainfall event. Additionally, CAFOs subject to 40 C.F.R. Part 412 that land apply manure, litter, or process wastewater, are required to implement best management practices (BMPs) for such land application.

1.2 Required Federal Consultations, Reviews, and Other Applicable Laws

The EPA is required to coordinate with other agencies, as appropriate, when making permitting decisions. **Table 1** provides a summary of these applicable laws and coordination requirements.

Additional information about the coordination and consultation processes involved with compliance with these other applicable federal laws is provided in Chapter 6 and in the Appendices of this EA.

Table 1 Other Applicable Federal Laws

	Description of the Requirement
Endangered Species Act	Section 7(a)(2) of the Endangered Species Act (ESA) requires that federal agencies, in consultation with the National Marine Fisheries Service and/or the U.S. Fish and Wildlife Service (FWS), ensure that any action authorized, funded, or carried out by such agency is not likely to jeopardize the continued existence of any endangered species or threatened species or result in the destruction or adverse modification of habitat of such species. Federal actions subject to ESA Section 7(a)(2) requirements include the issuance of permits.
National Historic Preservation Act	Section 106 of the National Historic Preservation Act of 1966 (NHPA) requires federal agencies, including EPA, to take into account the effects of an undertaking on historic properties. The implementing regulations of the NHPA can be found at 36 C.F.R. Part 800. An “undertaking,” as defined at 36 C.F.R. § 800.16(y), includes projects requiring a federal permit. Therefore, the issuance of this permit constitutes an undertaking. If the proposed activity has the potential to affect historic properties, these details must be provided as part of the application packages.

1.3 Proposed Action

The EPA’s proposed action is the issuance of an NPDES permit that authorizes the discharge of pollutants from the Maher CAFO into the waters of the United States in limited circumstances. A CWA permit issued to the Maher CAFO would regulate the discharge of the Facility’s wastewater to waters on the Standing Rock Indian Reservation, including High Bank Creek.

1.4 Purpose and Need for the Proposed Action

The purpose and need for the EPA’s proposed action to issue an NPDES permit to the Maher CAFO is to regulate the discharge of pollutants to waters of the United States, consistent with the CWA. The applicant is seeking a CWA NPDES permit authorizing the discharge of pollutants to waters of the United States, including High Bank Creek, from its existing CAFO Facility located within the exterior boundaries of the Standing Rock Indian Reservation. In the absence of EPA’s approval of Tribal or state programs, the EPA issues such permits within the exterior boundaries of the Standing Rock Indian Reservation. If an NPDES permit is not issued by the EPA, the CAFO Facility could continue to operate but would not be authorized to discharge pollutants into waters of the United States. NEPA § 107(d), 42 U.S.C. § 4336a(d); CWA § 301(a), 33 U.S.C. § 1311.

The EPA received Maher’s NPDES permit application on September 28, 2023. On December 6, 2023, EPA sent a letter to Maher requesting additional information related to the application. The EPA received a revised application with some additional information in response to that request on February 27, 2024. However, the February 2024 revised application did not adequately address certain requirements. The EPA worked with Maher’s consultant regarding these issues and the EPA received another revised permit application on February 17, 2025. The EPA reviewed the revised permit application and determined the permit application completed on March 4, 2025.

1.5 Site Selection

The CAFO is an existing facility. Although the configuration of the Facility may change to meet NPDES permit requirements, the EPA does not have the authority to require the general location of the Facility to change.

1.5.1 Description and Location

The Facility is located on the Standing Rock Indian Reservation near Timber Lake, South Dakota (latitude 45.504936 and longitude -101.157025). The maximum capacity of the Facility is 10,000 head of beef cattle and 3,400 yearlings. Cattle are confined to open lots within the production area from approximately October to June. Cattle are also contained within surrounding fields for grazing. There are about 6,025 acres of land under the control of the Facility that are available for applying the manure, litter, and process wastewater.

1.5.2 Surrounding Location Uses

The Facility is located in a rural area with agricultural land uses. The closest population center is Timber Lake, South Dakota, which is located approximately five miles southeast of the Facility. The population of Timber Lake, South Dakota is approximately 509 and the population in Corson County is approximately 3,902 (U.S. Census Bureau, 2025a, 2025b).

1.5.3 Summary of Proposed Project Activities

The proposed project activities include operation of a 10,000 head maximum capacity beef cattle and 3,400 yearling lot CAFO with NPDES permit coverage. Operations are not required to cease if the NPDES permit is not issued. However, if an NPDES permit is not issued by the EPA, the CAFO Facility would not be authorized to discharge pollutants into waters of the United States.

Cattle are confined to open lots within the production area from approximately October to June. Cattle are also contained within surrounding fields for grazing. The total capacity for manure, litter, and process wastewater storage is approximately 14,062,702 gallons. There are approximately 6,025 acres of land under the control of the Facility that are available for applying manure, litter, and processing wastewater.

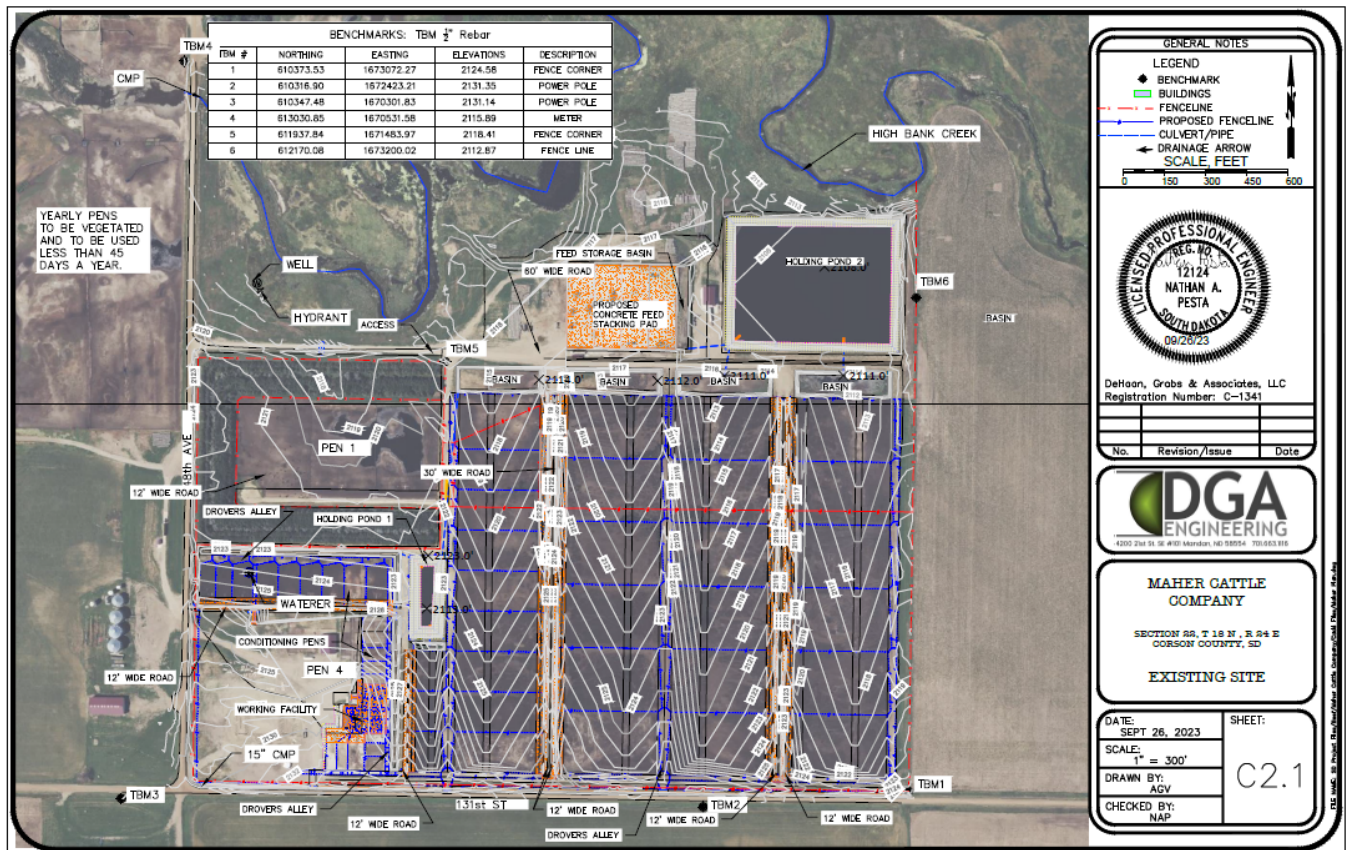


Figure 1 Facility schematic

1.6 Environmental Review Process

As discussed above, the issuance of a CWA NPDES permit to a "new source" is subject to environmental review pursuant to NEPA (42 U.S.C. § 4321 et seq.; CWA section 511(c), 33 U.S.C. § 1371). Under NEPA, ordinarily federal agencies must prepare an Environmental Impact Statement (EIS) for, *inter alia*, "major Federal actions significantly affecting the quality of the human environment..." NEPA § 102(C), 42 U.S.C. § 4332(C). An agency shall prepare an Environmental Assessment (EA) for any action that does not have a reasonably foreseeable significant effect on the quality of the human environment, or if the significance of such an effect is unknown unless the agency finds that a categorical exclusion is applicable or has decided to prepare an environmental impact statement. NEPA § 106(b)(2), 42 U.S.C. § 4336(b)(2); 40 C.F.R. § 6.205(a). The EPA determined that the Maher Facility is a "new source" under the CWA NPDES regulations (see 40 C.F.R. §§ 122.2 and 122.21(l)(2)(ii)) and is therefore subject to the requirements of NEPA consistent with CWA section 511(c), 33 U.S.C. § 1371. The EPA prepared this EA to evaluate the environmental effects of issuing the NPDES permit and to determine whether a finding of no significant impact is warranted or whether preparation of an environmental impact statement is necessary. NEPA § 106(b)(2), 42 U.S.C. § 4336(b)(2); 40 C.F.R. §§ 6.205(a), (b)(2). 40 C.F.R. §§ 122.21(l) and 124.10(c) require public notice to be provided when an NPDES new source determination has been made. In a letter dated February 26, 2024, the EPA sent a notice of the new source determination and appeal information to interested parties explaining that the issuance of an NPDES permit to the Maher Facility must comply with the EPA environmental review procedures. In preparing the EA, a scoping notice was published on May 29, 2024, that invited public input including identification of issues or impacts of concern to be considered in the Draft EA. The

scoping notice was posted on the EPA's website with Maher's permit application and distributed by email to parties known to have an interest in this matter, including Standing Rock Sioux Tribe leadership and the Standing Rock Sioux Tribe's Environmental Director and Water Quality Administrator. The public comment period for scoping ended on June 28, 2024. The EPA did not receive any comments in response to the EA scoping notice.

Pursuant to NEPA section 107(g)(1)(B)(iii), the EPA's deadline to issue the EA was one year from the date on which the Agency issued its notice of intent to prepare the EA. In this case, the one-year deadline was May 29, 2025. However, because the EPA did not receive a complete NPDES application until February 17, 2025, and other circumstances, the Agency could not meet the May 29, 2025 deadline for completing the EA. NEPA section 107(g)(2) provides that if an agency cannot meet the one-year deadline to complete the EA, the agency may extend the deadline, in consultation with the permit applicant, to establish a new deadline that provides only so much additional time as is necessary to complete the EA. In April 2025, the EPA consulted with the permit applicant and extended the deadline for the EA until December 1, 2025.

Consistent with NEPA and the EPA's NEPA implementing regulations at 40 C.F.R. Part 6, this Final EA includes a discussion on the purpose and need for the proposed action, alternatives to the proposed action, the affected environment, including baseline conditions that may be impacted by the proposed action and alternatives, the environmental impacts of the proposed action and alternatives, and other applicable environmental laws and executive orders. 40 C.F.R. § 6.205(e)(1). The EA includes a listing of coordination or consultation undertaken with any federal agency, state or local government, or federally recognized Tribes regarding compliance with applicable laws and executive orders. 40 C.F.R. § 6.205(e)(2). Through the EA process, the EPA identified and describes mitigation measures considered. The EPA did not identify any mitigation measures that must be adopted beyond the NPDES permit conditions to ensure the action will not have significant impacts. 40 C.F.R. § 6.205(e)(3). These NPDES permit conditions are discussed in Section 2.1.2 Alternative 2 – Issuance of NPDES Permit.

The EA focuses on resources that might be impacted and any environmental issues that are of public concern. 40 C.F.R. § 6.205(d). Although not required by the EPA's NEPA regulations, the EPA public noticed the Draft EA seeking public comments on August 26, 2025, for a period of 45 days. This public notice period was concurrent with the public notice period for the draft permit, which is required for at least 30 days, and a request for comments on CWA section 401 certification considerations. 40 C.F.R. § 124.10 and 40 C.F.R. § 121.17(a). In response to a request from the Standing Rock Sioux Tribe, the EPA extended the public notice period from October 13, 2025, to October 17, 2025. Following the public comment period on the Draft EA, the draft NPDES permit, and CWA section 401 certification considerations, the EPA prepared this Final EA to address any outstanding concerns. The EPA will provide a public review period for the Final EA document that will include the proposed action based on the NEPA analysis and informed by public input. 40 C.F.R. § 6.203(b). The EPA determined that the proposed action will not have significant effects, and the EPA concurrently prepared a preliminary finding of no significant impact (FONSI) with this Final EA that will be available for public review and comment for at least 30 days before the agency makes its final determination whether it is necessary to prepare an environmental impact statement (EIS) and before the proposed action can be implemented. *Id.*; 40 C.F.R. § 6.206(a). The preliminary FONSI includes this Final EA and a brief description of the reasons why there are no significant impacts. 40 C.F.R. § 6.206(b). The EPA did not

identify any commitments to mitigation that are essential to render the impacts of the proposed action not significant. 40 C.F.R. § 6.206(c). 40 C.F.R. §§ 6.206(d), (g). Because this Final EA supports a finding of no significant impact, the EPA does not intend to prepare an EIS before taking the proposed action. 40 C.F.R. § 6.206(a). The EPA may proceed with the action after responding to any substantive comments received on the preliminary FONSI during the 30-day comment period, or 30 days after issuance of the preliminary FONSI if no substantive comments are received. 40 C.F.R. § 6.206(f).

With respect to the NPDES permit, 40 C.F.R. § 124.10 requires the EPA to provide public notice of draft NPDES permits for at least 30 days. Pursuant to 40 C.F.R. § 124.11, any interested person may submit written comments on the draft NPDES permit. Any interested person may also request a public hearing. A request for a public hearing must state the nature of the issues proposed to be raised in the hearing. 40 C.F.R. § 124.17 requires the EPA to issue a response to comments if a final NPDES permit is issued. Concurrent with the Draft EA and request for comments on CWA section 401 certification considerations, the draft NPDES permit was public noticed on August 26, 2025, for a period of 45 days. In response to a request from the Standing Rock Sioux Tribe, the EPA extended the public notice period from October 13, 2025, to October 17, 2025. **Table 2** provides a summary of public and Tribal engagement.

Table 2 Public and Tribal Engagement Summary

Date	Engagement Description
April 22, 2024	The EPA sent the Standing Rock Sioux Tribe and Cheyenne River Sioux Tribe leadership letters offering Tribal consultation and coordination for the development of a Draft Environmental Assessment and National Historic Preservation Act of 1996 (NHPA) Section 106 Review for the proposed issuance of the Maher Cattle’s National Pollutant Discharge Elimination System permit. The letters listed the following as opportunities for consultation: 1. Development of the Draft EA; 2. Identification of historic properties, and as applicable, ways to avoid, minimize or mitigate potential adverse effects on these properties; 3. Finalization of the environmental review; and 4. Development of the Draft NPDES permit. The letters also sought assistance with developing a public engagement plan. The Tribal Historic Preservation Officer (THPO) for each Tribe was also provided a copy of these letters.
May 23, 2024	The EPA published a scoping notice soliciting public input regarding the development of the Draft Environmental Assessment. No public input was received.

June 13, 2024 June 17, 2024 June 18, 2024 July 2, 2024 July 8, 2024 April 14, 2025 April 16, 2025 April 24, 2025 August 7, 2025 August 11, 2025	The EPA reached out to the Standing Rock Sioux Tribe THPO on the listed dates via email and/or phone to gather information on potential historic properties such as archeological sites, burial grounds, sacred landscapes or features, ceremonial areas, traditional cultural places and landscapes, and buildings and structures with significant Tribal association. No potential historic properties information was provided to the EPA. The EPA reached out to the Standing Rock Sioux Tribe THPO for information on culturally sensitive plant and animal species. No information has been provided on these topics (EPA, 2025b). Note: The EPA also reached out to the Cheyenne River Sioux Tribe THPO to seek information on potential historic properties. No information was provided.
June 24, 2024	The Standing Rock Sioux Tribe leadership requested consultation with the EPA in response to the EPA's April 22, 2024, consultation offer letter.
August 13, 2024	The EPA held an in-person Tribal and NHPA 106 consultation meeting with the Tribal leadership of the Standing Rock Sioux Tribe in response to the offer sent on April 22, 2024 (above). This included an agenda item for Tribal input on Tribal treaty or similar rights, Indigenous knowledge, and/or sacred sites. While the Tribe raised concerns with people continuing to move into sacred areas on the Reservation squeezing out traditional Tribal practices, no specific concerns with sacred sites were raised in relation to the Facility. Note: The EPA reached out to representatives with the Cheyenne River Sioux Tribe after sending the offer of consultation and coordination on April 22, 2024. The Cheyenne River Sioux Tribe did not request consultation.
February 3, 2025 April 28, 2025 May 16, 2025 May 22, 2025 June 2, 2025 June 3, 2025	The EPA and the Standing Rock Sioux Tribe leadership exchanged information regarding community meetings and input from the Tribe.
July 7, 2025	The EPA held a virtual Tribal consultation meeting with the Tribal leadership of the Standing Rock Sioux Tribe to discuss the community meetings and further discuss input from the Tribe (EPA, 2025d).
July 31, 2025	The EPA met in-person with Dr. Mafany Mongoh, Institutional Review Board Chair and professor at Sitting Bull College. Dr. Mongoh shared information on culturally sensitive species, Tribal knowledge, and referred the EPA to the THPO contact for more information about historic properties (EPA, 2025b).

July 30 and 31, 2025	The EPA held two community meetings on the Standing Rock Indian Reservation, one at the Grand River Casino and one at Sitting Bull College. The purpose of the meetings was to educate the community about (1) EPA's role in regulating the Maher Facility, which is a large CAFO on the reservation, and (2) how to submit effective comments on a Draft NPDES permit and Draft EA regarding the Facility. Approximately 40 people attended the two meetings, representing Tribal government staff and the communities surrounding Maher Facility. They included neighbors of the Facility, outside legal counsel for the Tribe, one member of Tribal Council, a professor at Sitting Bull College, a visiting member of the Oglala Sioux Tribe, and Tribal staff from the water resources, environmental, land management and communications departments.
August 26, 2025	The Draft Environmental Assessment and Draft NPDES permit were concurrently public noticed for public input for 45 days. Among other interested parties, the Standing Rock Sioux Tribe leadership and staff were notified of the public notice.
September 10, 2025	In a letter from Standing Rock Sioux Tribe leadership received by the EPA via email on September 12, 2025, the Tribe requested the public notice period be extended an additional 45 days.
September 11, 2025	Prior to receiving the Standing Rock Sioux Tribe's request to extend the public notice period, the EPA sent the Standing Rock Sioux Tribe leadership a letter offering consultation and coordination.
September 17, 2025	In response to the extension request from the Standing Rock Sioux Tribe leadership, the EPA extended the end of the public notice period from October 13, 2025, to October 17, 2025. The EPA also offered Tribal consultation to the Standing Rock Sioux Tribe. Due to the deadline to complete the EA by December 1, 2025, the EPA indicated any additional Tribal consultation meetings needed to occur by October 31, 2025.
October 17, 2025 (received October 21, 2025) October 21, 2025	The Standing Rock Sioux Tribe's representative and the EPA corresponded regarding the Tribe's request to further extend the public notice end date. The EPA reiterated its invitation for consultation and invited the written input the Tribe indicated it had prepared as part of consultation.
October 21, 2025	The Standing Rock Sioux Tribe sent written consultation input to the EPA. This included letters from the Tribe's Chairman of the Economics Committee and the Tribe's Chairman, and a map from the Tribe's Game and Fish Department.
October 28, 2025 October 29, 2025 November 3, 2025	The EPA and the Standing Rock Sioux Tribe's representative discussed questions from the Tribe. The EPA indicated it would be able to hold a consultation meeting as late as November 5, 2025, and meet the EA deadline of December 1, 2025. This consultation offer was also provided by the EPA to Standing Rock Sioux Tribe leadership.

November 4, 2025 November 7, 2025	On November 4, 2025, the EPA spoke and emailed with Tyrel Iron Eyes, Tribal Archeologist - Standing Rock Sioux Tribe, requesting information on any culturally sensitive species, such as plants, animals, burial sites, ancient sites, etc. in the area of the Maher Facility. Mr. Iron Eyes confirmed that he could provide such information during the conversation. On November 7, 2025, the EPA followed up with voicemail and email to Mr. Iron Eyes with the same request as on November 4, 2025, regarding any culturally sensitive species, but no information was provided (EPA, 2025c).
November 7, 2025 November 13, 2025	The EPA called and emailed Jeff Kelly, Director of the Standing Rock Sioux Tribe Game & Fish Department, inquiring about hunting and fishing practices in the vicinity of the Facility and whether any sensitive species are known to exist near the Facility. The EPA spoke with Leslie White Cloud, Ranger for the Department, and she provided information about data available through the Tribe's issuance of hunting and fishing licenses, which would not provide any granularity about the presence or harvesting of particular fish and game species in the vicinity of the Facility. Ms. White Cloud referred the EPA to the Tribal Biologist for more information about species of interest to the Tribe that one would expect to be found in the action area (EPA, 2025c).
November 14, 2025	The EPA communicated over phone and email with Dr. Mike Gutzmer, Tribal Biologist, who shared information about species of special importance to the Tribe. Specific information about fish, mammals and bird species can be found in Section 3.3 (EPA, 2025c).

1.7 Documents incorporated by reference

In accordance with 40 C.F.R. § 6.200(f), the EPA incorporates by reference the following for this EA:

- 40 C.F.R. Part 6 – *Procedures for Implementing the National Environmental Policy Act and Assessing the Environmental Effects Abroad of EPA Actions.*
- 40 C.F.R. Part 122—*EPA Administered Permit Programs: The National Pollutant Discharge Elimination System*
- 40 C.F.R. Part 412— *Concentrated Animal Feeding Operations (CAFO) Point Source Category*

2 Alternatives

2.1 Alternatives Considered

The EPA is considering three alternatives for the NPDES permit in this EA. 40 C.F.R. § 6.205(e)(1)(ii). Alternatives considered include the following: a no action alternative (Alternative 1), issuance of an NPDES permit for the Facility (Alternative 2), and issuance of an NPDES permit with voluntary best management practices (Alternative 3).

2.1.1 Alternative 1 – No Action

Under this alternative, the EPA would not issue an NPDES permit. The effects of the no action alternative are that the Facility could continue to operate and would not be authorized to discharge. Under this alternative, NPDES requirements that reduce impacts in the event of a discharge of pollutants to waters of the U.S. would not be imposed through a permit issued by the EPA. As long as the Facility designs and operates in a way that prevents all discharges, this alternative is in accordance with Section 301(a) of the Clean Water Act, which prohibits the discharge of any pollutant from the Facility without authorization through an NPDES permit.

2.1.2 Alternative 2 – Issuance of NPDES Permit

Under Alternative 2, the EPA would issue an NPDES permit to the Facility for discharges of pollutants into waters of the U.S. An NPDES permit issued in accordance with 40 C.F.R. Parts 122 and 412 would include requirements such as:

- Weekly inspections of stormwater diversion devices, channels, manure storage areas, and containment structures;
- Construction of manure holding lagoons that meet U.S. Department of Agriculture Natural Resources Conservation Service engineering requirements;
- Weekly inspections of manure holding lagoons;
- Measurement of manure depth in holding lagoons and maintenance of adequate freeboard to prevent overflows;
- Maintenance of a rain gauge on site with logs of measurable rainfall;
- Isolation of animal containment areas from stormwater run-on from outside surface drainage;
- Proper disposal of mortalities such that they do not contaminate surface waters;
- Prohibition of animals from coming into direct contact with surface water;
- Requirements for holding pens to be constructed outside the 100-year flood plain;
- Required best management practices (BMPs) for land application including:
 - Development and implementation of a nutrient management plan, which requires manure be applied at an agronomic rate with soil sampling for supporting data,
 - Inspections of land application equipment for leaks,
 - Not applying during frozen or saturated soil conditions,
 - Implementation of setbacks, buffers and other controls to prevent runoff from fields bordering receiving waters, and
 - Monitoring for any discharges during land application;
- Reporting any discharges to the EPA, and also to the Tribe; and
- Annual reporting to the EPA and to the Tribe.

2.1.3 Alternative 3 – Issuance of NPDES Permit with Voluntary Best Management Practices (BMPs)

Under Alternative 3, the EPA would issue an NPDES permit to the Facility as described in Alternative 2 above. Additionally, Maher would implement additional voluntary BMPs listed in the Natural Resources Conservation Service (NRCS) National Conservation Practice Standard for Prescribed Grazing (Code 528). This NRCS standard is also included in paragraph 40 of the Administrative Compliance Order on Consent agreed to by the EPA and Maher and effective May 7, 2024 (Docket No. CWA-08-

2024-0005). This NRCS Conservation Practice Standard is included in Appendix A, and the Administrative Compliance Order on Consent is included in Appendix B. Maher would also work with NRCS to implement voluntary BMPs for manure and dust management to reduce odors and airborne particles.

This alternative complies with the statutory requirements of the CWA through the issuance of an NPDES permit and provides additional environmental benefits through the implementation by Maher of the NRCS voluntary BMPs. Voluntary BMPs to reduce odors and airborne particles could include BMPs for managing manure in animal pens, BMPs for managing the manure in the holding lagoon(s), and controlling odor with tree breaks. The voluntary BMPs from the NRCS Conservation Practice Standard can be used to manage vegetation with grazing and/or browsing animals to achieve specific ecological, economic and management objectives. As stated in the NRCS Conservation Practice Standard, the use of this practice can accomplish one or more of the following purposes:

- Improve or maintain desirable species composition, structure, productivity, health and/or vigor of plants and plant communities;
- Improve or maintain the quantity, quality, and/or balance of forages to meet the nutritional needs and ensure the health and performance of grazing and browsing animals;
- Reduce or eliminate the transportation of sediment, nutrients, pathogens, or chemicals to surface and/or groundwater;
- Improve or maintain upland hydrology, riparian dynamics, or watershed function to reduce surface or groundwater depletion and improve naturally available moisture;
- Improve or maintain soil health components and indicators, such as soil organic matter, soil aggregate stability, soil organism habitat, or increase infiltration and water holding capacity, reduce runoff and compaction;
- Prevent or reduce sheet, rill, classic gully, ephemeral gully, bank, and wind erosion;
- Improve or maintain terrestrial habitat for wildlife and invertebrates and/or aquatic habitat for fish and other organisms;
- Manage biomass accumulation for the desired fuel load to reduce wildfire risk or to facilitate prescribed burning; and/or
- Reduce plant pest pressure from invasive and/or undesirable plants and other pests as part of an integrated plan.

2.2 Alternatives Considered but Eliminated from Detailed Study

As a potential alternative to the proposed action, the EPA considered whether an alternative site for the Facility was appropriate. However, as discussed in Section 1.5 Site Selection, the CAFO is an existing facility. Although the configuration of the Facility may change to meet NPDES permit requirements, the EPA does not have the authority under the NPDES program to require the general location of the Facility to change. Therefore, the EPA eliminated an alternative that included an alternative site from consideration and the alternative was not carried forward for analysis in this EA.

3 Affected Environment

3.1 Introduction

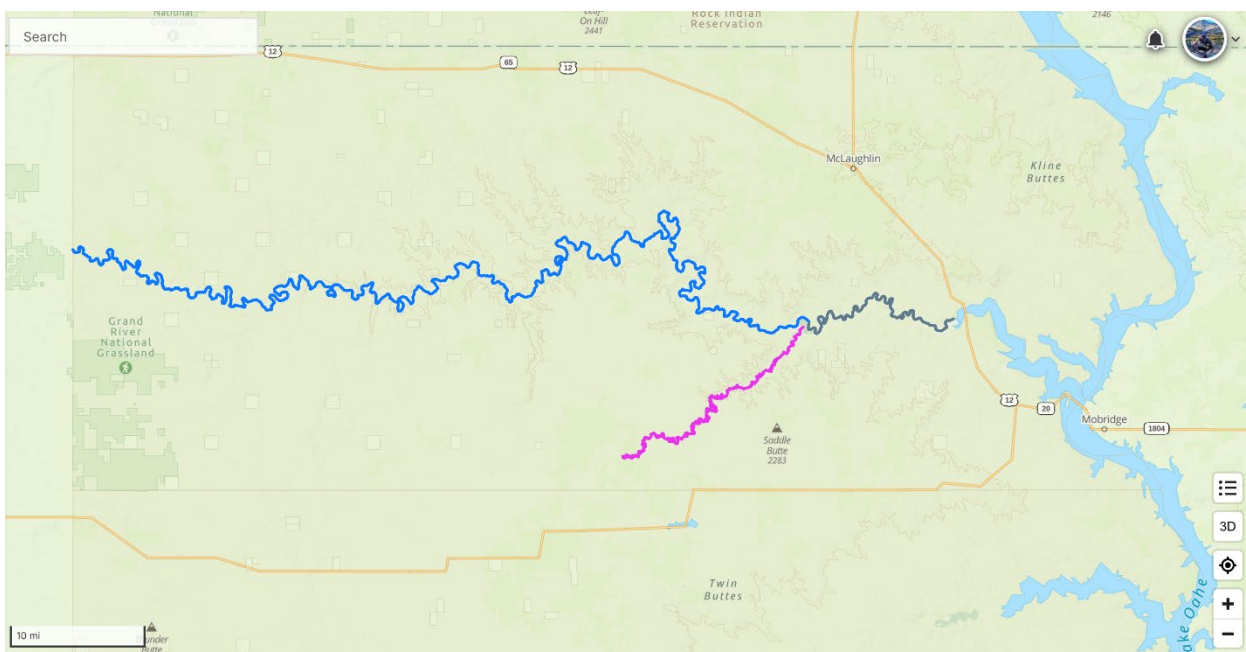
This chapter describes the existing environment potentially affected by the proposed action through issuance of an NPDES permit. 40 C.F.R. § 6.205(e)(1)(iii). The current status of each potentially affected resource is discussed below, as follows: physical resources (Section 3.2), biological resources (Section 3.3), culturally significant plant and animal species (Section 3.4), social and economic environment (Section 3.5), and Tribal treaty rights (Section 3.6). This chapter describes the potentially affected resources prior to the proposed action as a point of comparison for evaluating the consequences or impacts resulting from the proposed action. Consistent with 40 C.F.R. § 6.205(d), resources that are not expected to be impacted by the proposed action are not discussed in this chapter and therefore are not carried forward for analysis.

3.2 Physical Resources

3.2.1 Water Resources

High Bank Creek flows through the Facility then downstream approximately 35 stream miles to the Grand River. This is an estimate as High Bank Creek is highly sinuous through this reach. From the confluence with High Bank Creek, the Grand River flows approximately 35 stream miles to the Missouri River/Lake Oahe, which forms the boundary between the Standing Rock Indian Reservation and state of South Dakota. The Grand River flows from the state of South Dakota onto the Standing Rock Indian Reservation approximately 112 stream miles upstream of the confluence with High Bank Creek (**Figure 2**).

Figure 2 Map depicting High Bank Creek below the Facility (purple), the Grand River from the Standing Rock Indian Reservation boundary to its confluence with High Bank Creek (blue), and the Grand River from its confluence with High Bank Creek to the Missouri River/Lake Oahe



Animal manure from CAFOs can impact water quality by increasing nutrient concentrations (total phosphorus, total nitrogen), causing excess algal growth, reduced water clarity, reducing dissolved oxygen concentrations, increasing pathogens (*E. coli*) and contributing to potential ammonia toxicity (Burkholder et al., 2007). Water quality impacts are more likely to occur when the cattle holding pens and/or their manure piles are located in close proximity to a waterbody (i.e., stream, lake/reservoir) or if large number of cattle have access to the stream.

Excess amounts of nutrients from the manure or applied as fertilizer for crops can cause excess algal growth, which can result in swings in dissolved oxygen (DO) concentrations or low DO concentrations (Suplee, 2019). Lower DO concentrations can impact the aquatic life (fish or macroinvertebrates) living in the stream, sometimes resulting in fish kills. Excess nutrients can also contribute to an overabundance of macrophytes (submerged aquatic plants) or changes to the mussel, macroinvertebrate or fish communities due to changes in food resources. For example, manure contains high levels of ammonia which can be toxic to freshwater mussels, snails and fish (Aguirre-Villegas, 2024; Wang, 2017; Alonso, 2023; Ball, 1967). Manure from cattle can also contribute to elevated *E. coli* concentrations. *E. coli* is an indicator used to indicate the presence of disease-causing bacteria which may impact human health when ingested.

Other possible impacts include bank erosion from cattle trampling the stream bank; increasing turbidity or total suspended solids (TSS) concentrations related to bank erosion; changes to the riparian vegetation due to grazing pressure and trampling.

A search for water quality data within approximately 75-80 stream-miles of the Facility was conducted using the Water Quality Portal (WQP) tool. The WQP is a cooperative service sponsored by the United States Geological Survey (USGS) and the EPA. The WQP integrates publicly available water quality data from the USGS National Water Information System and the EPA Water Quality Exchange Data Warehouse. Water quality data for pollutants expected to be impacted by CAFO operations was found in four general locations. These pollutants included dissolved oxygen, ammonia, nutrients (total Kjeldahl nitrogen, nitrate + nitrite, phosphate phosphorus, and total phosphorus), and TSS. Locations included a single location on High Bank Creek below the Facility, one location on the Grand River below High Bank Creek, and two locations on the Grand River above High Bank Creek. No stream flow data was available on High Bank Creek. A summary of this water quality data is provided in **Tables 3-6**. The data is highly variable and increases in pollutant concentrations on this scale would be difficult to attribute to any single source. The landscape is predominately agricultural.

Table 3 High Bank Creek water quality data approximately 22 miles downstream of Facility at latitude 45.5879, longitude -100.965

Parameter	# of Samples	Years	Result Range ¹
Ammonia (mg/L)	4	2016	ND - 0.2
Dissolved Oxygen (mg/L)	7	2016, 2020	6.7 - 9.6
<i>E. Coli</i> (#/100 mL)	5	2016, 2019	ND - 1733
Total Kjeldahl nitrogen (mg/L)	---	---	---

Nitrate + Nitrite (mg/L)	5	2016, 2019	ND - 0.2
Phosphate phosphorus (mg/L)	---	---	---
Total phosphorus (mg/L)	5	2016, 2019	ND - 0.3
TSS (mg/L)	4	2016	2 - 190

1. ND = less than the analytical detection limit

Table 4 Grand River water quality data approximately 55 miles above confluence with High Bank Creek at State Highway 65 at latitude 45.6877, longitude -101.340

Parameter	# of Samples	Year Range	Result Range ¹
Ammonia (mg/L)	30	2015- 2023	ND - 5.2
Dissolved Oxygen (mg/L)	42	2016 - 2023	6.9 - 15.7
<i>E. Coli</i> (#/100 mL)	30	2015 - 2023	ND - 1570
Total Kjeldahl nitrogen (mg/L)	22	2015 - 2021	ND - 1.64
Nitrate + Nitrite (mg/L)	41	2015 - 2023	ND - 3.1
Phosphate phosphorus (mg/L)	10	2015 - 2017	0.03 - 2.76
Total phosphorus (mg/L)	31	2015 - 2023	ND - 0.9
TSS (mg/L)	40	2015 - 2023	4 - 5548

1. ND = less than the analytical detection limit

Table 5 Grand River water quality data approximately 17 miles above confluence with High Bank Creek near Bullhead at latitude 45.7596, longitude -101.079

Parameter	# of Samples	Year Range	Result Range ¹
Ammonia (mg/L)	9	2015- 2023	ND - 0.1
Dissolved Oxygen (mg/L)	11	2016 - 2023	7.1 - 9.5
<i>E. Coli</i> (#/100 mL)	9	2015 - 2023	ND - 649
Total Kjeldahl nitrogen (mg/L)	---	---	---
Nitrate + Nitrite (mg/L)	9	2015 - 2023	ND - 0.4
Phosphate phosphorus (mg/L)	---	---	---
Total phosphorus (mg/L)	9	2015 - 2023	ND - 0.4

TSS (mg/L)	9	2015 - 2023	34 - 2050
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1. ND = less than the analytical detection limit

Table 6 Grand River water quality data approximately 6.5 miles below confluence with High Bank Creek near Little Eagle near latitude 45.6579, longitude, longitude -100.818

Parameter	# of Samples	Year Range	Result Range ¹
Ammonia (mg/L)	58	2015 - 2023	ND - 0.20
Dissolved Oxygen (mg/L)	95	2015 - 2023	6.6 - 18.4
<i>E. coli</i> (#/100 mL)	48	2015 - 2023	ND - 3450
Total Kjeldahl nitrogen (mg/L)	70	2015 - 2021	ND - 3.27
Nitrate + Nitrite (mg/L)	92	2015 - 2023	ND - 13.6
Phosphate phosphorus (mg/L)	34	2015 - 2017	0.04 - 3.12
Total phosphorus (mg/L)	59	2015 - 2023	ND - 0.97
TSS (mg/L)	92	2015 - 2023	5 - 6033

1. ND = less than the analytical detection limit

During a July 14, 2022, inspection (**Appendix C**), inspectors from the EPA observed that animal holding pens had been constructed such that High Bank Creek ran through them. The compliance sampling inspection report states, “A [Maher] facility representative indicated that around 600-700 cow/calf pairs are confined to pens approximately 2 miles southwest of the feedlot for around 15-100 days prior to going to fields for grazing” (**Appendix D**). These cow/calf pairs were housed in holding pens as a separate facility from the Maher Facility. The EPA collected water samples around the Maher Facility: upstream of the holding pens, within the holding pens (i.e., discharge point), and downstream of the holding pens in a sampling inspection June 27, 2023. The EPA also collected samples upstream and downstream of the other facility, both of which were upstream of the Maher Facility. The sampling locations are listed in **Table 7**. Samples were analyzed for nutrients (ammonia, nitrite, nitrate-nitrite, total Kjeldahl nitrogen (TKN), and total phosphorus (TP)), biochemical oxygen demand (BOD), TSS, and *E. coli*. Sample locations are listed in **Table 7** and sample results are shown in **Table 8**.

Table 7 2023 High Bank Creek sampling locations

Site ID	Name	Latitude	Longitude	Description
UP1	Upstream 1	45.49425°	-101.19785°	High Bank Creek upstream of Maher and cow calf holding pens
UP2	Upstream 2	45.50381°	-101.19163°	High Bank Creek upstream of Maher, but downstream of cow calf holding pens
UP3	Upstream 3	45.50399°	-101.17428°	High Bank Creek upstream of Maher, but downstream of cow calf holding pens

DP	Discharge Point	45.50846°	-101.16197°	Discharge point from the yearling pens into High Bank Creek
DP2	Discharge Point Duplicate	45.50846°	-101.16197°	Discharge point from the yearling pens into High Bank Creek
DS1	Downstream 1	45.50782°	-101.15308°	High Bank Creek downstream of Maher discharge point
DS2	Downstream 2	45.50937°	-101.14108°	High Bank Creek downstream of Maher discharge point
DS3	Downstream 3	45.51625°	-101.13033°	High Bank Creek downstream of Maher discharge point

Table 8 2023 High Bank Creek sample results

Pollutant	Upstream 1	Upstream 2	Upstream 3	Discharge Point	Discharge Point Duplicate	Downstream 1	Downstream 2	Downstream 3
Ammonia (mg/L)	<0.2	0.40	0.38	0.44	0.42	0.48	0.37	0.51
Nitrite (mg/L)	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Nitrate-Nitrite (mg/L)	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
TKN (mg/L)	<5.0	<5.0	5.38	5.36	5.43	5.90	6.18	6.73
TP (mg/L)	0.35	1.05	1.32	1.59	1.51	1.67	1.87	2.28
BOD ₅ (mg/L)	5.22	4.90	6.32	5.38	5.78	6.65	7.61	8.24
TSS (mg/L)	12	6	11	13	11	5	9	4
<i>E. coli</i> (MPN/100 mL)	14.6	770.1	1046.2	>2419.6	>2419.6	>2419.6	>2419.6	>2419.6

Sampling results showed:

- Slight increases in ammonia and BOD₅ downstream compared to upstream. Ammonia concentrations were as low as below detection (<0.2 mg/L) at one upstream location to as high as 0.51 mg/L at one downstream location. BOD₅ concentrations were as low as 4.90 mg/L at one upstream location and as high as 8.24 mg/L at one downstream location.
- Increases in TKN and TP concentrations downstream compared to upstream. TKN was as low as below detection (<0.5 mg/L) at two upstream locations and as high as 6.73 at one

downstream location. TP was as low as 0.35 mg/L at one upstream location and as high as 2.28 mg/L at one downstream location;

- *E. Coli* increased from upstream to downstream with a range from 14.6 colony forming units cfu/100 mL at one upstream location (upstream 1, upstream of the separate cow/calf operation), to 770 and 1046 cfu/100 mL (upstream 2 and 3, both downstream of the separate cow/calf pairs operation and upstream of Maher), to exceeding the upper quantification limit of 2,419 cfu/100 mL at the discharge point and all locations downstream of Maher; and
- TSS concentrations generally decreased from upstream to downstream ranging from 12 mg/L to 4 mg/L TSS.

These data show elevated concentrations for *E. coli*, BOD and nutrients (i.e., TKN and TP) associated with impacts from holding pens at the separate facility and further elevated concentrations associated with the discharge from the Facility. *E. coli* concentrations (capped at the upper quantification limit) exceeded the EPA's recommended recreational water quality criteria for *E. coli* of 410 cfu/100 mL. Total nitrogen and total phosphorus concentrations exceeded the EPA's recommended nutrient criteria of 0.023 mg/L total nitrogen and 0.56 mg/L total phosphorus for rivers and streams in the Great Plains Grass and Shrublands ecoregion where the Facility is located.

Field measurements for dissolved oxygen, pH, temperature, turbidity, or conductivity were not collected by the EPA. Therefore, impacts associated with those parameters during an observed discharge cannot be evaluated at this time. No measures of aquatic life use (e.g., macroinvertebrate, fish) were collected by the EPA.

Photos collected during the EPA's 2023 sampling event show visual evidence of increased algal cover from upstream to downstream and the stream flowing through the calf holding pens with a lack of fencing (see Figures 3, 4, and 5).

Figure 3 Photo above separate cow/calf operation and upstream of Facility at Upstream 1 sampling location



Figure 4 Photo of High Bank Creek flowing through yearling pens



Figure 5 Photo above Downstream 2 sampling location downstream of Facility



Water resources within the affected environment may also include domestic water wells downstream of the Facility and with proximity to High Bank Creek. The EPA reviewed the State of South Dakota's Well Completion Report GIS site (<https://apps.sd.gov/nr68welllogs/>) within the scope of the full length of High Bank Creek and the Grand River from the Maher Facility to the Missouri River (South Dakota Department of Environment and Natural Resources, n.d). The GIS site identified six wells downstream of Maher within ½ mile of High Bank Creek classified as domestic wells. There were no wells classified as domestic within ½ mile of the Grand River downstream from its confluence with High Bank Creek, including in the town of Little Eagle. Mapping indicates that five of the wells along High Bank Creek are situated at an elevation at least 30 feet above the level of the creek. There is one well located in the flood plain at the confluence of the Grand River and High Bank Creek. This well is approximately 870 feet from the Grand River and ¼ mile from High Bank Creek and the well head is situated about 6 feet above the elevation of the creek.

3.2.2 Air Quality

The Clean Air Act (CAA) requires the EPA to set National Ambient Air Quality Standards (NAAQS) for six common air pollutants (criteria air pollutants) to protect human health and welfare (EPA, 2018a). NAAQS have been designated for these seven criteria pollutants: carbon monoxide (CO), ozone, sulfur dioxide (SO₂), oxides of nitrogen measured as nitrogen dioxide (NO₂), particulate matter with an aerodynamic diameter less than or equal to 10 microns (PM₁₀), particulate matter with an aerodynamic diameter less than or equal to 2.5 microns (PM_{2.5}), and lead (EPA, 2018c). The EPA is required to designate areas that meet (attainment) or do not meet (nonattainment) these seven NAAQS to ensure compliance with air quality standards. For those areas in nonattainment with NAAQS, the states are

required to develop a specific plan to achieve attainment for all standards responsible for an area's nonattainment status if designated moderate nonattainment or higher, or for maintenance areas (maintenance plans) (EPA, 2018b).

South Dakota's ambient air quality monitoring network for PM₁₀ has historically demonstrated attainment of EPA standards for both particulate matter pollutants: PM₁₀ and PM_{2.5} (see, 40 C.F.R. § 81.342; and [South Dakota Department of Agriculture and Natural Resources, 2024](#)). The area is currently in attainment for all NAAQS. However, there are no fixed air quality monitoring stations Timber Lake, South Dakota; Dewey County, South Dakota; or Corson County, South Dakota. There is available air quality data collected by the cities of Pierre at approximately 134 miles away and Aberdeen at 146 miles away from the Facility. For PM_{2.5} the Pierre monitoring site 2021-2023 24-hour design value concentration is 20 µg/m³ compared to the NAAQS of 35 µg/m³ ([South Dakota Department of Agriculture and Natural Resources, 2024, pp. 26-29](#); EPA, 2018c). The Pierre monitoring site PM_{2.5} annual design value for 2021-2023 is 3.6 µg/m³ as compared to the NAAQS of 9 µg/m³. The Pierre monitoring site does not collect PM₁₀ specific data. The city of Aberdeen opened a bus stop continuous monitoring station for PM_{2.5} and PM₁₀. The Aberdeen 2021-2023 24-hour PM_{2.5} design value is 27 µg/m³ as compared to the NAAQS of 35 µg/m³. The 2021-2023 annual PM_{2.5} design value for the Aberdeen monitor is 6 µg/m³ as compared to the NAAQS of 9 µg/m³ ([South Dakota Department of Agriculture and Natural Resources, 2024, pp. 26-29](#)). With regard to PM₁₀, the design value is a measure of the number of exceedances averaged over a three-year period and thus does not provide direct background concentration. To understand the background concentration for PM₁₀ it is necessary to apply a statistical approach consistent with the prior form of the PM₁₀ NAAQS as the 99th percentile concentration averaged over the latest three-year period (the 99th percentile is equivalent to the high-fourth-high monitored value). The 2021-2023 three-year average of the high-fourth-high 24-hour PM₁₀ concentrations at the Aberdeen monitoring site is as follows: $(89 + 98 + 75)/3 = 87.3$ µg/m³ as compared to the 24-hour PM₁₀ NAAQS of 150 µg/m³.

Some community-science efforts to monitor air quality levels, specifically for PM_{2.5} are present in Timber Lake, SD and posted on the Purple Air website platform ([PurpleAir, 2025](#)). No efforts to monitor air quality in Corson County near the site were identified.

CAFO activities such as manure management and land application (off-site transport and/or onsite treatment) can generate air releases, including ammonia, greenhouse gases, hydrogen sulfide, and certain criteria air pollutants. Emission occurrence may vary depending on the type of animals at the facility, housing confinement areas, weather conditions, and type of waste management system. The primary component of animal waste is nitrogen, which is released into the air as ammonia. Additionally, some waste management techniques may release more air emissions. For instance, deep-pit systems emit more ammonia due to the waste remaining in the area for a longer period (EPA, 2002).

Animal waste produces greenhouse gases such as methane and nitrous oxide. The rate of emissions may vary depending on different factors such as the waste management technique, the amount and quality of waste, as well as temperature and moisture of the waste (EPA, 2002). Notably, certain livestock, including beef cattle, may produce more methane depending on their diet.

Land application practices primarily release ammonia, but this may depend on the volatilization of ammonia, as well as the quantity of manure applied.

Criteria air pollutant emissions may occur from CAFOs' use of vehicles to either transport waste off-site and/or use vehicular equipment to compost onsite (EPA, 2002). However, onsite composting may result in less emissions (dependent on quantity of material being composted) when compared to off-site transport.

3.2.3 Noise Environment

The Facility is currently in operation, and the current noise is due mainly to truck traffic. Truck noise increases when cattle are transported to and from the Facility as they are bought and sold. The volume is variable depending on the number of cattle and typically occurs during the winter.

3.2.4 Weather Events

Though weather patterns vary considerably depending on geography, much of the country, including South Dakota, is susceptible to multiple threats from extreme weather events, such as alternate flooding and drought (Rahat et. al., 2024). From 1980 to 2024, South Dakota was impacted by 13 drought events and five flooding events that had losses of more than \$1 billion (National Oceanic and Atmospheric Administration, 2024). Both flooding and drought have the potential to mobilize contaminants in waterbodies. Contaminants in creeks and riverbeds may be re-suspended and transported by heavy rain events, which may pose a threat to nearby sources of drinking water and impact local soil quality. Drought exacerbates poor water quality, and in cases of extreme drought, creek beds may dry out. Soil and associated contaminants that were previously in bodies of water can become airborne as dust particles, and local populations may be exposed through inhalation. Dust inhalation is associated with health effects such as asthma and Valley fever (Tong et. al., 2023).

3.3 Biological Resources

Biological resources refer to plant and animal communities and associated habitat that they comprise or, that provides important support to critical life stages. This section focuses primarily on the biological resources that are found in the Northwestern Great Plains ecoregion and may be found in Corson County, South Dakota, the location of the proposed project. The following sub-sections provide a discussion on the biological resources that may be found in the project area, including mammals, birds, fish, and invertebrates.

The project area is in the Northwestern Great Plains ecoregion, which encompasses the Missouri Plateau section of the Great Plains (Omernik et al., 2014). This area is comprised of semiarid rolling plains of shale and sandstone derived soils with occasional buttes and badlands. The landscape in the Northwestern Great Plains was largely unaffected by continental glaciation and retains its original soils and complex stream drainage patterns. Today's land uses are frequently dedicated to cattle grazing and spring wheat and alfalfa farming and have replaced native herds of bison (*Bison bison*), pronghorn (*Antilocapra americana*), and elk (*Cervus canadensis*) grazing locations on the shortgrass prairie. Agriculture in the Northwestern Great Plains is limited by erratic precipitation patterns and limited opportunities for irrigation.

Impacts to biological resources associated with the Facility's current operational practices are a function of associated pollutants discharged into the receiving waters. During the EPA's July 14, 2022,

inspection and June 27, 2023, sampling inspection, EPA inspectors observed unauthorized discharges to High Bank Creek, insufficient safeguards to protect High Bank Creek from wastewater originating from the yearling pens, and the placement of yearling pens themselves located around and inside High Bank Creek. The sample results from the 2023 sampling inspection are discussed in Section 3.2.1, above. The EPA's national recommended water quality criteria for total phosphorus in rivers and streams in ecoregion IV is 0.023 mg/L. While recommended total phosphorus criteria were exceeded at the locations both upstream and downstream of the Facility, the concentrations also increased at each subsequent sample location in a downstream direction. EPA's national recommended water quality criteria for total nitrogen in rivers and streams in ecoregion IV is 0.56 mg/L. Total nitrogen exceeded the recommended criteria at each of the sample locations downstream of the Facility.

3.3.1 Mammals

The Northwestern Great Plains of South Dakota are home to a unique assemblage of large and small mammalian species. Large ungulates species such as bison, pronghorn, and mule deer (*Odocoileus hemionus*) can be found roaming the plains, while some of the more common smaller mammalian species found in this ecoregion include coyotes (*Canis latrans*), black-tailed prairie dog (*Cynomys ludovicianus*), and black-footed ferret (*Mustela nigripes*). The Tribe's Biologist, Dr. Mike Gutzmer, explained that the black-footed ferret and black-tailed prairie dog are species of special important to the Tribe, and they can be found in upland areas within the High Bank Creek watershed (EPA, 2025c). While multiple fox and bat species can also be found in the Northwestern Great Plains, they are more commonly found in and adjacent to wooded areas and are less common in the open plains (South Dakota Department of Game, Fish, and Parks, 2012).

Mammalian species protected by the ESA that may be found in Corson County, as reported by FWS's Information for Planning and Conservation (IPaC) website (<https://ecos.fws.gov/ipac/>), include the northern long-eared bat (*Myotis septentrionalis*). The northern long-eared bat is an endangered species that is in danger of extinction throughout all or a significant portion of its range (FWS, 2022). The northern long-eared bat has medium to dark brown fur and adults weigh approximately 5 to 8 grams and are 3.0 to 3.7 inches in length. The species range includes much of the eastern and north-central, United States. Northern long-eared bat populations require a matrix of interconnected habitats that support seasonal life history requirements and typically have a migratory range of no more than 55 miles between winter and summer grounds. Winter hibernacula typically include mines and/or caves, while summer roosting sites include cavities or crevices of live trees and snags, and to a lesser extent they can be found in suitable human-made features. Foraging typically occurs in the understory (i.e., above ground, but under tree canopy) of mixed-type forested hillsides, with moths and beetles comprising the primary prey insects for northern long-eared bats.

3.3.2 Birds

An abundance of bird species can be found in the Northwestern Great Plains. More common plains bird species include the western meadowlark (*Sturnella neglecta*), dickcissel (*Spiza americana*), bobolink (*Dolichonyx oryzivorus*), grasshopper sparrow (*Ammodramus savannarum*), prairie-chicken (*Tympanuchus cupido*), ferruginous hawk (*Buteo regalis*), and burrowing owl (*Athene cunicularia*) (South Dakota Department of Game, Fish, and Parks, n.d.).

Bird species protected by the ESA that may be found in Corson County, as reported by FWS's IPaC website, include piping plover (*Charadrius melodus*), rufa red knot (*Calidris canutus rufa*), and whooping crane (*Grus americana*).

Piping plovers are grouped by population and are located along the Atlantic Coast, the Northern Great Plains, and the Great Lakes. The population located along the Atlantic Coast and Northern Great Plains are listed as threatened and likely to become endangered within the foreseeable future throughout all or a significant portion of its range (FWS, 2015). A separate population located in the Great Lakes watershed is listed as endangered. The population that may occur within the project area is the Northern Great Plains population. Piping plovers are small shorebirds that measure about 7 inches in length. They have pale brown backs with a lighter brown breast and during the breeding season they develop black bands across their forehead and another across their breast. During breeding season, the Northern Great Plains piping plovers breed and raise young on vegetated sandbars and shorelines of river systems and alkaline lakes. Wintering ground habitat consists of barrier and mainland beaches, sand, mud, and algal flats, washover passes, salt marshes, and coastal lagoons. The piping plover diet consists of a diverse range of invertebrates based on availability associated with foraging location and seasonal invertebrate abundance.

Rufa red knot is a threatened species that is likely to become endangered within the foreseeable future throughout all or a significant portion of its range (FWS, 2020). The rufa red knot is a medium-sized shorebird about 9 to 11 inches. The rufa red knot has brick red or salmon red plumage on its breast, with whitish feathers on its lower belly and tail. The plumage on the wings and back are dark brown with white striations and red edges. The rufa red knot migrates annually between its breeding grounds in the central Canadian Arctic and four wintering regions that span from the Southeast United States to the southern tip of South America. Birds from different wintering populations have differing migration strategies and destinations. The rufa red knot diet ranges from invertebrates to vegetation and is dependent on seasonal availability and whether the birds are at the breeding grounds or along migratory routes.

The whooping crane is an endangered species that is in danger of extinction throughout all or a significant portion of its range (FWS, 2024d). The whooping crane stands up to 5 feet tall and the adult plumage is snowy white, with black or grayish feathers on the end of their wings, along their jaw, and a patch on their nape. The whooping crane is a bi-annual migrant, traveling between summer habitats in central Canada, and wintering grounds along the Texas coast. The whooping crane breeds, migrates, winters, and forages in a variety of wetland and other habitats, including coastal marshes and estuaries, inland marshes, lakes, ponds, wet meadows and rivers, and agricultural fields. Whooping cranes are omnivorous and are often found foraging for terrestrial and aquatic invertebrates, frogs, rodents, small birds, minnows, berries, and agricultural grains.

The burrowing owl can be found within the habitat of black-tailed prairie dog. The Tribe's Biologist, Dr. Mike Gutzmer, explained that the burrowing owl is an important component of black-tailed prairie dog colonies for its role in the food chain shared by prairie dogs, thereby making it important by its nexus to a species of special importance (EPA, 2025c).

3.3.3 Fish

There are a wide range of native fish species in the Northern Great Plains ecoregion, with the minnow family (Cyprinidae) being the most diverse species native to the region. Other species-rich families include suckers (Catostomidae), catfish (Ictaluridae), perch (Percidae), and sunfish (Centrarchidae). The fathead minnow (*Pimephales promelas*), sand shiner (*Notropis stramineus*), and red shiner (*Cyprinella lutrensis*) are some of the most widespread species in this ecoregion (University of Nebraska – Lincoln, 2011a).

With respect to threatened and endangered species, the U.S. Fish and Wildlife Information for Planning and Conservation (IPaC) website (<https://ecos.fws.gov/ipac/>) was accessed on July 28, 2025, to determine federally-listed Endangered, Threatened, Proposed and Candidate Species for the area near the Facility, including fish species, but none were identified within the action area. According to the Tribe's Biologist, Dr. Mike Gutzmer, the pallid sturgeon was once endemic to streams within the Reservation such as High Bank Creek and the Grand River (EPA, 2025c), but this fish is now highly unlikely to be found in this watershed, and the project area is not within the species' critical habitat as designated by FWS.

3.3.4 Invertebrates

Most insect groups are represented on the Northern Great Plains, with the insect orders Orthoptera (grasshoppers and crickets), Hemiptera (true bugs, various insects with sucking mouthparts), Diptera (true flies), Coleoptera (beetles), Lepidoptera (butterflies and moths), and Hymenoptera (ants, bees, and wasps) being some of the more common orders (University of Nebraska - Lincoln, 2011b).

There are no threatened or endangered invertebrate species in Corson County, as reported by FWS's IPaC website, however, there are three species listed as either proposed threatened or proposed endangered. The invertebrate species that are listed as proposed threatened and may be found in Corson County include the monarch butterfly (*Danaus plexippus*) and the western regal fritillary (*Argynnis idalia occidentalis*). The Suckley's cuckoo bumble bee (*Bombus suckleyi*) is listed as proposed endangered and may be found in Corson County. While these species are reported in Corson County, South Dakota, they are not likely to be found in the area of the Facility due to an absence of habitat for each of the respective species.

Monarch butterfly (*Danaus plexippus*) is proposed threatened for the endangered species list and may be found in Corson County. The monarch butterfly, while found on multiple continents, is grouped into an eastern and western population in North America with the eastern population overwintering in Mexico and the western population overwintering at sites in California and the Baja California. During the breeding season, the monarch will lay eggs on the milkweed host plant. Monarch larvae emerge after two to five days and develop over a period of 9 to 18 days. The monarch larva then pupates into a chrysalis before emerging 6 to 14 days later as an adult butterfly. Adult monarchs are large and conspicuous, with orange wings surrounded by a black border and lined with black veins. The black border has a double row of white spots, present on the upper side of the wings. There are multiple generations of monarchs produced during the breeding season, with most adults living approximately two to five weeks. Overwintering adults migrate to the wintering grounds and live six to nine months.

The same adults that migrate to the wintering grounds also return to the breeding grounds before beginning the return migration.

Western regal fritillary (*Argynnis idalia occidentalis*) is proposed threatened for the endangered species list and may be found in Corson County. The regal fritillary is a large, nonmigratory butterfly. Adults have dorsal orange forewings and dark hindwings that feature black bars, fine white markings, and two rows of large spots at the base of the wings. Adult wingspans range from approximately 2.5 to 4.0 inches. The western regal fritillary has one generation late summer to early fall. Females lay eggs that hatch into larvae within 2 to 3 weeks, and the larvae overwinter in nearby grassland vegetation before emerging in early spring to search for violets, their only food source. Larvae pupate in the leaf litter and emerge as adults beginning in midsummer. Males live for approximately 5 weeks and females live for approximately 10 weeks (FWS, 2024a).

Suckley's cuckoo bumble bee (*Bombus suckleyi*) is proposed endangered for the endangered species list and may be found in Corson County. The Suckley's cuckoo bumble bee is an obligate social parasite of bumble bees in the genus *Bombus* (FWS, 2024c). Female Suckley's cuckoo bumble bees overtake the nest of a suitable host colony after the first emergence of workers. The female Suckley's cuckoo bumble bee then removes the host queen, any existing larvae, and replaces host eggs with her own eggs. The host colony workers then tend to rear and the usurper's offspring. As an obligate social parasite, Suckley's cuckoo bumble bees are dependent on the host species and do not produce a worker caste, produce wax, or collect pollen. As a result, the hind legs of Suckley's cuckoo bumble bees are missing features for pollen-collecting that other bumble bees have. Additional identifying features for female Suckley's cuckoo bumble bees include a curved abdomen and two triangular shaped ridges on the dorsal side of the abdomen, while the males are harder to identify and typically require a microscope for proper identification. The historical range of this species spans from the Yukon of Canada south to Arizona, and Oregon east to Nebraska.

3.4 Culturally significant plant and animal species

This section assesses plant and animal species known to be present in the vicinity of the Maher Facility and that are recognized by the Standing Rock Sioux Tribe as significant to the Tribe's culture. The EPA gathered information from the Tribe on this topic through conversations with leaders of the Tribe's Environmental Program and Department of Water Resources, a conversation with a research professor at Sitting Bull College, a letter sent to EPA by the Tribe's Chairwoman, and conversations and emails exchanged with Dr. Mike Gutzmer, Tribal Biologist (EPA, 2025b, 2025c).

Plant species known to be culturally significant to the Tribe include those that play a role in ceremonies, provide medicinal value, and/or are a source of food while practicing traditional gathering. The following plant species were identified by the Tribe as known to exist in or near the riparian zone of High Bank Creek downstream of the Maher Facility. However, the EPA's sources could not provide precise locations for these species due to the sensitive nature of this privately held information, which is important for families engaging in cultural practices with these plants:

- Cottonwood (*Populus sp.*)
- Red willow (*Salix amygdaloides*)
- Chokecherries (*Prunus virginiana*)
- Wild plums (*Prunus sp.*)

- Buffaloberries (*Shepherdia sp.*)
- Fox grape (*Vitis labrusca*)
- Summer grape (*Vitis aestivalis*)
- Riverbank grape (*Vitis riparia*)
- Wild verbena (*Glandularia sp.*)
- Wild bergamot (*Monarda fistulosa*)
- Sweet grass (*Hierochloa odorata*)

Through the same communications identified above, the following animal species were identified as culturally significant to the Tribe. They include species with habitat in the High Bank Creek watershed and those that are sacred to the Lakota people, regardless of conservation status. Due to the mobile nature of these species populations and for the reasons stated above, exact locations within the watershed of these species were unable to be shared:

- Bald eagle (*Haliaeetus leucocephalus*)
- Big brown bat (*Eptesicus fuscus*)
- Black-tailed prairie dog (*Cynomys ludovicianus*)
- Golden eagle (*Aquila chrysaetos*)
- Little brown bat (*Myotis lucifugus*)
- Northern long-eared bat (*Myotis septentrionalis*)
- Snapping turtle (*Chelydra serpentina*)
- Western meadowlark (*Sturnella neglecta*)
- Burrowing owl (*Athene cunicularia*)

3.5 Socioeconomic Environment

3.5.1 Economic Environment

The Facility for which the permit has been proposed is located within the exterior boundaries of the Standing Rock Indian Reservation, near Timber Lake, South Dakota in Corson County. In 2020, Timber Lake had a total population of 509 and Corson County had a total population of 3,902 (U.S. Census Bureau, 2025a, 2025b). In 2023, Timber Lake had a per capita income of \$26,510 with 18.1% of residents below the poverty level, and Corson County had a per capita income of \$20,734 with 45.2% of resident below the poverty level. The per capita income was lower than both the state (\$38,880) and U.S. (\$43,289) averages and the average poverty level was higher in Timber Lake and Corson County than for both the state (12.0%) and U.S. (12.4%) (U.S. Census Bureau, 2023a, 2023b, 2023c, 2023d).

Through the Tribal consultation process and citizen complaints, Tribal and community members voiced concerns related to odor, water quality, health, and Tribal sovereignty related to CAFOs.

3.5.2 Human Health/Public Health

The Facility is located in Corson County within the Standing Rock Indian Reservation. The Maher Facility is located in a rural area that is sparsely populated. Timber Lake, which is in Dewey County, is the closest population center, which is located approximately five miles southeast of the Facility with a population of approximately 509. Corson County has a population of 3,902 (U.S. Census Bureau, 2025a and 2025b).

Dewey and Corson Counties are ranked lower than the average counties in both South Dakota, and the nation for health factors and health outcomes (County Health Rankings & Roadmaps, 2025a, 2025b). Wastewater discharges can have significant impacts on human/public health. Human health/public health concerns that can arise from wastewater discharges include increased risk of waterborne illness due to *Escherichia coli* (*E. coli*) contamination, as well as other adverse health effects such as respiratory and dermal irritation from exposure to pollutants such as ammonia. In 2023, South Dakota reported a total of 113 cases of *E. coli* illnesses. There were no cases reported from Dewey County and less than five reported in Corson County (South Dakota Department of Health, 2024a). This is an incidence of 0 cases per 1,000 people in Dewey County and <1.28 cases per 1,000 people in Corson County. The EPA does not have information on the causes or exposure pathway of the reported *E. coli* case(s). Stein and Katz (2017) summarized several studies on the epidemiology of *E. coli* shedding by cattle and identified studies related to exposure pathways that were foodborne, waterborne, from farm visits, from petting zoos, and from beef processing plants. Heiman et al. (2015) analyzed 390 outbreaks caused by *E. coli* reported in the United States between 2003 and 2012 and found 65% of the transmissions involved food, followed by animal contact, person-to-person transmission and the waterborne route. The EPA found no studies or other information indicating animal transport trucks are a public health concern related to *E. coli*.

During the August 13, 2024, Tribal consultation meeting, the Standing Rock Sioux Tribe leadership expressed concerns related to odor and water quality from a different CAFO operation in McLaughlin (EPA, 2024b). These concerns are particularly relevant for people working in and around CAFO facilities and populations living near these operations. Exposure to ammonia, both through air and water, has been associated with increased respiratory symptoms such as wheezing and coughing. Additionally, dermal exposure, which occurs most often in an occupational setting, can result in skin lesions, blisters, and cutaneous burns (Agency for Toxic Substances and Disease Registry, 2004). Even low levels of exposure to ammonia in the air may harm individuals with an existing asthma condition (Agency for Toxic Substances and Disease Registry, 2011). In 2020, 22.7% of Timber Lake residents were uninsured, 18.8% of Corson County residents were uninsured, and 21.5% of residents in the Standing Rock Indian Reservation were uninsured (U.S. Census Bureau, 2025a, 2025b 2025c). The issuance of an NPDES permit has the potential to decrease the potential adverse health impacts and economic strain of medical bills associated with exposure to contaminated water. Minor indirect positive economic impacts under this alternative may occur if local workers are hired to conduct the associated maintenance, construction, and inspections.

Some practices such as manure application and waste management may generate air emissions, which can include pollutants such as hydrogen sulfide, methane, and particulate matter (EPA, 2002). Exposure to particulate matter has been associated with a variety of harmful health effects such as exacerbated asthma, cough, irregular heartbeat, and non-fatal heart attacks (EPA, 2024a). Exposure to high concentrations of hydrogen sulfide may cause difficulty breathing in people with asthma, nose and eye irritation, and poor memory (Agency for Toxic Substances and Disease Registry, 2017). Exposure to high levels of methane may lead to feelings of dizziness, difficulty breathing, and loss of consciousness (Ohio Department of Health, 2012). In 2022, the area around Maher in both Corson and Dewey County had a prevalence of asthma of 12.2% among adults aged 18 years and older (Centers for Disease Control and Prevention, 2022). The state level asthma prevalence is 8% according to South Dakota Department of Health (2024a).

For members of the community not working at the Maher operation, the potential for exposure is primarily via air emissions from the CAFO rather than direct contact with contaminated waste, soil or consumption of surface water affected by CAFO operations. The EPA reviewed published scientific literature relevant to health impacts and cattle CAFOs. Complex mixtures of CAFO emissions can adversely impact human health (e.g., respiratory disease) through several mechanisms. Mechanisms include: 1) lung inflammation due to interactive effects between particulates, endotoxins, and ammonia; 2) sensory and respiratory irritants such as hydrogen sulfide; and 3) bioaerosols and infectious agents (Pohl, et al. 2024).

Evidence in the published biomedical literature is strongest for adverse effects in occupationally exposed farm workers. The evidence showing an association between CAFO emissions and health impacts to nearby communities is more uncertain. This is due in part to fewer published studies on community health impacts, limitations in study design and lack of reliable exposure assessment. Community health studies typically use some form of exposure metric to assess exposure to CAFO emissions. The most used measure for exposure is proximity to a facility within some geographic boundary (e.g., ZIP code) or specified distance (Son, et al. 2024).

Some studies show communities near intensive cattle CAFOs experience higher rates of adverse health impacts compared to those in non-CAFO areas, however these studies found that there was a weakly positive association between respiratory disease (e.g. asthma) and symptoms (e.g. coughing, wheezing) in individuals living within two miles of a facility (Pohl, et al. 2024; Son, et al. 2024). A study by Hooiveld et al. (2015) stated that living within 0.5 km (<0.3 miles) of a CAFO can increase odor annoyances, odor annoyance itself was associated with lower general health and increased reporting of respiratory, gastrointestinal, neurological, and (for lower back pain patients) stress-related symptom; however, this study pointed out limitations such as study population only consisting of asthma and lower back pain patients. The EPA used its Demographics Proximity Tool to gather information on the population living within specific distances of Maher, which combines data from the 2020 Census and the Census' American Community Survey (ACS) 5-year averages for 2018-2022. This data show that ten individuals live within a two-mile radius around the Facility, with zero residents within a one-mile radius (EPA, 2025a). The potential for exposure to CAFO emissions and adverse health impacts to the surrounding community is minimal, and likely non-existent for most community members who live miles from the Maher operation.

Schultz et al. investigated asthma, allergies, and lung function in residents with proximity to CAFOs. They observed increased self-reported physician-diagnosed nasal and lung allergies, asthma, usage of asthma medication, and uncontrolled asthma in residents living 1.5 miles from a cattle CAFO in comparison to those living five miles from the facility. The strength of an association rapidly diminished with distance from the facility, with insignificant evidence of adverse health effects or reports of negative impact on quality of life more than five miles from the CAFO (Schultz, et al., 2019).

Differences in type of animal feeding facility (e.g. swine vs. cattle) can significantly affect the magnitude of community impacts Wing and Wolf (2000) studied intensive livestock operations, health, and quality of life in several communities in North Carolina within a two-mile radius of swine and cattle

CAFOs. Similar symptoms reported in occupationally exposed swine CAFO workers were also elevated among residents near the facility as compared to the community with no livestock operations. Headache, runny nose, sore throat, excessive coughing, diarrhea, and burning eyes were reported more frequently in the swine CAFO community than the cattle CAFO community. However, compared to swine operations, residents near cattle CAFOs did not report as many symptoms, nor did they report reduced quality of life. Responses to the quality-of-life questions were very different in the control (> 2 miles from the facility) and cattle CAFO communities as compared to the swine CAFO communities. The adjusted number of episodes during which participants could not open windows or go outside even in nice weather differed little for the cattle vs. control communities.

3.5.3 Tribal Cultural Practices

The Tribe explained during consultation with the EPA that certain traditional practices of Tribal members are dependent on the availability of wide, open and undisturbed swaths of land. For example, Tribal leaders discussed hunting and gathering within open spaces and described Vision Quest, which is a rite of passage for young men. The notion of “boundaries” for practices such as these, they explained, is about spirituality even though it depends on geography. People continue to move into sacred areas on the reservation where traditional practices are observed, which squeezes out the space needed to observe them.

3.6 Tribal Treaty Rights

The [EPA Policy on Consultation With Indian Tribes](#) states that “EPA recognizes the importance of respecting Tribal treaty or similar rights and its obligation to do so. In situations where Tribal treaty or similar rights may be affected by a proposed EPA action or decision, EPA seeks information and recommendations regarding such rights during consultation.” Further, the [“EPA Policy on Consultation with Indian Tribes: Guidance for Discussing Tribal Treaty or Similar Rights”](#) (February 2025) states that “[t]he U.S. Environmental Protection Agency recognizes the importance of respecting Tribal treaty or similar rights and its obligation to do so,” and acknowledges that “[t]he U.S. Constitution defines treaties as part of the supreme law of the land, with the same legal force as federal statutes.” The EPA received input, through Tribal consultation and through public comment, regarding treaty rights. During Tribal consultation, the EPA received a letter dated June 2, 2025, from the Chairwoman of the Tribal Council, and a letter dated October 17, 2025 (received October 21, 2025) from the Chairman of the Tribal Council, both of which raised the Tribe’s treaty rights. During the public comment period, the EPA received comments from individual Tribal members which raised the Tribe’s treaty rights.

3.6.1 Tribal Treaty Rights Related to Water Quality And Air Quality

The Tribe asserts that it holds treaty rights to hunt, fish and gather under the 1851 Treaty of Fort Laramie¹ and the 1868 Treaty of Fort Laramie.²

Individual Tribal members also asserted the following treaty rights during the public comment process: “Standing Rock is a Treaty Tribe under the 1851 and 1868 Fort Laramie Treaties. The Tribe has a Treaty right to a clean and safe environment. Any Discharge from Maher Cattle violates the Treaties.”³

Overall, the Tribe’s input during the Tribal consultation process and public comments raised concerns that the Facility negatively impacts the water and air in the Tribe’s reservation, as well as the people, fish, animals and plants that rely on the water and air in the reservation.

3.6.2 Tribal Treaty Rights Related to Land Ownership

The Tribe’s letters dated June 2, 2025, and October 17, 2025 (received October 21, 2025) to the EPA also asserted treaty rights to land ownership, both inside and outside of the Tribe’s reservation. Regarding comments asserting that the Tribe still owns lands outside of its reservation pursuant to the Fort Laramie Treaties of 1851 and 1868, and inside the reservation that are owned by Maher and other non-Tribal members, the EPA is not aware of any federal court decision affirming those assertions. In contrast, federal courts have held that the boundaries of Tribal lands recognized by the Fort Laramie Treaty of 1851 were reduced by the Fort Laramie Treaty of 1868, and that the treaty lands established pursuant to the Fort Laramie Treaty of 1868 were reduced by the Congressional Act of February 28, 1877.⁴ For example, in describing the 1877 Act, the United States Supreme Court stated: “[t]he Act had the effect of abrogating the earlier Fort Laramie Treaty [of 1868], and of implementing the terms of the Manypenny Commission’s ‘agreement’ with the Sioux leaders.”⁵ Further, the text of the Congressional

¹ 11 Stat. 749 (1851). See Article V (“the aforesaid Indian nations ... do not surrender the privilege of hunting, fishing, or passing over any of the tracts of country heretofore described.”). The 1851 treaty does not explicitly reference rights to gather, and the EPA is not aware of any federal court decision interpreting the treaty to include an explicit or implicit right to gather. Without deciding the existence or scope of the Tribe’s treaty rights, and for purposes of considering potential impacts to treaty rights in this matter, the EPA assumes for the sake of argument that a right to gather within the Tribe’s reservation exists.

² 15 Stat. 635 (1869). The 1868 treaty does not explicitly reference the right to fish and explicitly references the right to hunt only in regards to off-reservation lands. See, e.g., Article XI. However, the United States Supreme Court has held that those off-reservation hunting rights were abrogated by an 1877 Act of Congress. *U.S. v. Sioux Nation of Indians*, 448 U.S. 371, 382-83, 423 (1980). Also, Article XVII appears to abrogate certain portions of prior treaties with the Sioux Tribes, but not treaty rights to hunt and to fish within their reservations. Further, the EPA is not aware of any federal court decisions finding that Congress abrogated the rights to hunt and fish within relevant Sioux reservations under the 1851 treaty, including pursuant to the 1868 treaty or subsequent Congressional acts reducing the size of the reservation (e.g., 19 Stat. 254 (1877) and 25 Stat. 888 (1889)). Moreover, the United States Supreme Court has held that “[a]s a general rule, Indians enjoy exclusive treaty rights to hunt and fish on lands reserved to them, unless such rights were clearly relinquished by treaty or have been modified by Congress.” *U.S. v. Dion*, 476 U.S. 734, 738 (1986). Without deciding the existence or scope of the Tribe’s treaty rights, the EPA assumes for purposes of considering potential impacts to treaty rights in this matter that those treaty rights continue to exist.

³ Commenters did not explain which provisions of the treaties create those rights, and the treaties do not explicitly do so. The EPA is not aware of any federal court decisions finding that the treaties implicitly create those treaty rights.

⁴ 19 Stat. 254 (1877).

⁵ *United States v. Sioux Nation of Indians*, 448 U.S. 371, 382-83, 423 (1980).

Act of March 2, 1889⁶ indicates that all lands outside of the reservations created in the 1889 Act were restored to the public domain.

The EPA acknowledges continued claims by the Tribe to land ownership outside of its reservation subject to the Fort Laramie Treaties of 1851 and 1868, to ownership of land within its reservation that was sold to non-Tribal members subject to Congressional acts, and its dispute of the Supreme Court's decision in *United States v. Sioux Nation of Indians*, 448 U.S. 371 (1980), as well as other longstanding treaty disputes between this and other Tribes and the United States. In its role as a regulatory agency, EPA lacks the authority to resolve these disputes.

4 Environmental Consequences

4.1 Introduction

This chapter describes the potential environmental impacts associated with the proposed action and alternatives. 40 C.F.R. § 6.205(e)(1)(iv).

4.2 Physical Resources

4.2.1 Water Resources

Water quality impacts resulting from CAFO operations and associated discharges may include a decrease in dissolved oxygen and increases in biological oxygen demand, increase in nutrient concentrations (total phosphorus, total nitrogen), excess algal growth, reduced water clarity, potential for ammonia toxicity, increased *E. coli*, and increased total suspended solids. Degradation of water quality parameters is greatest if NPDES permit requirements are not met and the cattle holding pens and/or their manure piles are located in close proximity to a waterbody and uncontrolled discharges occur during storm events. Additionally, water quality (and physical habitat) impacts can occur if large number of cattle have access to the stream to drink and then defecate. This type of cattle access to streams is not permitted by CAFO regulations regardless of whether a facility has an NPDES permit.

Alternative 1 - No Action

The No Action alternative would likely result in ongoing water quality impacts to the water resources. Under the No Action alternative, the Facility would not be authorized to discharge because no NPDES permit would be issued. Water quality could improve compared to the current condition, assuming the Facility prevents any discharge. The quantity of pollutants discharged would likely be higher than if the Facility were permitted, because many of the safeguards required by a permit would likely not be implemented. For example, weekly inspections of stormwater diversion devices, channels, manure storage areas, and containment structures would not be required, and the absence of those inspections would increase the chances of an unauthorized discharge. The Facility would not be required to develop and implement a nutrient management plan for land application sites to ensure manure application rates result in reduced pollutants in stormwater runoff from fields into High Bank Creek. This alternative would likely result in less water quality improvement to High Bank Creek than

⁶ 25 Stat. 888 (1889).

the other alternatives because the discharge of nutrients, pathogens (*E. coli*), TSS, and ammonia is not expected to be reduced as much without an NPDES permit.

As discussed in Section 3.2.1, domestic drinking water wells downgradient of the Facility and within the High Bank Creek watershed include six wells within ½ mile of High Bank Creek classified as domestic wells. There were no wells classified as domestic within ½ mile of the Grand River downstream from its confluence with High Bank Creek, including in the town of Little Eagle. Mapping indicates that five of the wells along High Bank Creek are situated at an elevation at least 30 feet above the level of the creek. At those elevations, there is no way for water from High Bank Creek conveying pollutants from the Facility to reach the well heads and inundate these water wells, so there is likely to be no direct impact from Maher on these wells, regardless of which alternative is considered. There is one well located in the flood plain at the confluence of the Grand River and High Bank Creek. This well is approximately 870 feet from the Grand River and ¼ mile from High Bank Creek, and the well head is situated about 6 feet above the elevation of the creek. It is possible this well could be inundated during a highwater event on either the River or the Creek. As a result, there is the potential for surface water intrusion into this well during high-water events, and thus the possibility that pollutants attributable to the Maher Facility could directly impact this well. However, the risk of surface water intrusion into this well is pre-existing with respect to the No Action alternative. Any pollutants from the Facility would be extremely diluted in the event of a high-water event of this magnitude and would thus have minimal additional effect beyond the pre-existing risk of contamination of the well via intrusion.

Alternative 2 - Proposed Action, Issuance of an NPDES permit

The issuance of an NPDES permit for the Facility would likely improve water quality in High Bank Creek by limiting the discharge of wastewater from the production area to occur only during a 24-hour 25-year storm event; requiring setbacks and other safeguards for production areas to protect High Bank Creek; and developing and implementing a nutrient management plan for land application sites to ensure manure application rates result in reduced pollutants in stormwater runoff from fields into High Bank Creek. By regulating discharges, the Proposed Action would likely result in water quality improvements to High Bank Creek as concentrations of nutrients, pathogens (*E. coli*), TSS, and ammonia decline relative to Alternative 1.

Under these permit conditions, the only discharges that would be permitted from the CAFO production area are runoff and direct precipitation from storm events that exceed a 25-year, 24-hour rainfall event (3.74 inches). Such discharges, therefore, would be in the context of a high-volume storm event in the High Bank Creek drainage, meaning that there would be significant volumes of natural runoff simultaneously entering the receiving water from the entire watershed, which would dilute pollutants discharged from the CAFO production area. As a result, concentrations of pollutants discharged in such circumstances would have minimal effect on the water quality in High Bank Creek and, for the same reasons, would not be expected to impact sources of drinking water.

Impacts of Alternative 2 on domestic drinking water wells downgradient of the Facility are similar to those assessed for the No Action alternative due to a very low risk of surface water intrusion of pollutants attributable to Maher into these wells. Furthermore, infiltration impacts are unlikely because any discharge from the Facility would occur only during rare, large precipitation events and any pollutants would be highly diluted and would be moving relatively quickly with a large volume of runoff and thus have minimal opportunity for infiltration.

Alternative 3 - Issuance of NPDES Permit with Voluntary Best Management Practices (BMPs)

Similar to Alternative 2, the issuance of an NPDES permit for the Facility with voluntary BMPS would likely improve water quality in High Bank Creek by limiting the discharge of wastewater from the production area to only during a 24-hour 25-year storm event, as described for Alternative 2; requiring setbacks and other safeguards for production areas to protect High Bank Creek; and developing and implementing a nutrient management plan for land application sites to ensure manure application rates result in reduced pollutants in stormwater runoff from fields into High Bank Creek. By regulating the discharge, the Proposed Action would likely result in water quality improvements to High Bank Creek as concentrations of nutrients, *E. coli*, TSS, and ammonia decline. In addition, if Maher chose to implement voluntary BMPs discussed above in Section 2.1.3, impacts to water resources would be further improved by reducing or eliminating the TSS, nutrients, pathogens (*E. coli*), or chemicals to High Bank Creek.

Impacts of Alternative 3 on domestic drinking water wells downgradient of the Facility are the same as those assessed for Alternative 2.

4.2.2 Air Quality

As discussed in Section 3.2.2 Air Quality, there is limited data available for present air pollutant emissions in the Timber Lake, SD area. However, routine CAFO practices may produce odor-causing emissions that could potentially impact nearby individuals and their daily activities. There are no large sources of anthropogenic (man-made) emissions expected to be released into the atmosphere from the project area under the proposed alternative.

Alternative 1 - No Action

The No Action alternative would result in no change in air quality beyond existing potential impacts from the current operations of the Facility. The CAFO Facility will still exist and would not be authorized to discharge, but operations would likely continue as before. This may result in potential odor disturbance for nearby individuals. Refer to Section 3.5.2 Human Health/Public Health for impact discussions of potential adverse health effects associated with CAFO operations, including from exposure to ammonia concentrations.

Alternative 2 - Proposed Action, Issuance of NPDES Permit

The issuance of an NPDES permit for the Facility would result in no change in air quality.

Alternative 3 - Issuance of NPDES Permit with Voluntary Best Management Practices (BMPs)

The issuance of an NPDES permit with voluntary BMPs for odor and dust control would likely improve air quality. Certain BMPs could reduce particulate matter, ammonia, hydrogen sulfide, and other air pollutants.

4.2.3 Noise Environment

Current noise is generally due to truck traffic patterns from the Facility.

Alternative 1 - No Action

The No Action alternative would likely result in no changes to noise impacts. Regardless of whether the Facility has an NPDES permit, truck traffic patterns are unlikely to change.

Alternative 2 - Proposed Action, Issuance of NPDES Permit

The issuance of an NPDES permit, would similarly be unlikely to change truck traffic patterns.

Alternative 3 - Issuance of NPDES Permit with Voluntary Best Management Practices (BMPs)

Similar to Alternative 2, the issuance of an NPDES permit with voluntary BMPs would be unlikely to change truck traffic patterns.

4.2.4 Weather Events

As discussed in Section 3.2.4 Weather Events, the project area may be impacted by increased precipitation and drought, both of which have the potential to mobilize contaminants in waterbodies or through airborne particles.

Alternative 1 - No Action

Under the No Action alternative, the Facility would not be authorized to discharge because no NPDES permit would be issued. The No Action alternative would result in no effect from weather events outside of potential ongoing impacts from the current operations of the Facility. Due to interactions between impacts discussed in Section 3.2.4 Weather Events, Section 4.4.2 Human Health/Public Health, and Section 4.2.1 Water Resources, weather events and pollution due to current Facility operations may exacerbate human health impacts.

Alternative 2 - Proposed Action, Issuance of NPDES permit

The issuance of an NPDES permit for the Facility, would likely improve water quality in High Bank Creek due to implementation of permit requirements such as regular inspections and other requirements discussed in Section 2.1.2 Alternative 2 and water impacts discussed in Section 4.2.1 Water Resources. Potential water quality improvements due to the issuance of the NPDES permit may prevent some of the adverse human health impacts of pollution migration associated with weather events such as flooding and drought. Soil and associated contaminants may become airborne as dust particles in the case of drought; improved soil quality may reduce airborne contaminants.

Alternative 3 - Issuance of NPDES Permit with Voluntary Best Management Practices (BMPs)

The issuance of an NPDES permit and the implementation of voluntary BMPs would provide additional environmental benefits to High Bank Creek and may further prevent harmful impacts of weather events and pollution migration by reducing or eliminating transportation of sediment, nutrients, pathogens, or chemicals to surface and/or groundwater, improving or maintaining soil health components, and other potential impacts discussed in Section 2.1.3 Alternative 3. Improved soil quality under this alternative may reduce airborne contaminants in the case of drought.

4.3 Biological Resources

The biological resources found in the Northern Great Plains area are described in Section 3.3 Biological Resources. In general, the issuance of an NPDES permit is expected to improve the water quality in High Bank Creek compared to the no action alternative and may therefore improve biological resources. Manure application rates may be modified because of NPDES permit requirements. Because there is no information about current or recent application rates, it is not clear how the manure application rates on crop fields will change.

4.3.1 Mammals

Mammal species that may occur in the vicinity of the Facility are discussed in Sections 3.3.1 and 3.4.

Alternative 1 - No Action

The No Action alternative would result in ongoing impacts to any mammalian species found in and adjacent to the Facility. The No Action alternative would not likely result in any new impacts, as the area has been home to agricultural and/or ranching activities since before commencement of Facility CAFO operations. Additionally, as a CAFO operation, cattle are not authorized to be in or immediately adjacent to High Bank Creek, nor is the Facility allowed to discharge to High Bank Creek. Removing cattle from High Bank Creek and ceasing discharges to High Bank Creek could result in improved habitat and water quality in High Bank Creek and could improve the riparian areas adjacent to the creek.

Alternative 2 - Proposed Action, Issuance of an NPDES permit

The issuance of an NPDES permit for the Facility would result in improvements to water quality in High Bank Creek by requiring additional monitoring of water quality as part of the permit, requiring setbacks and other safeguards to protect High Bank Creek, and requiring development of a nutrient management plan to ensure manure application rates do not result in environmental harm. The NPDES permit would require quarterly monitoring upstream and downstream of the Facility to track water quality in High Bank Creek. Since current manure application rates have not been documented, it is not clear whether the current manure application rates are resulting in environmental harm. However, under an NPDES permit, manure application rates would be calculated and monitored to reduce the likelihood of worsening environmental conditions. As with Alternative 1, cattle are not allowed to be in or immediately adjacent to High Bank Creek. However, under Alternative 2, the issuance of an NPDES permit also includes setbacks as a permit requirement. The setbacks, which are a mandatory component of the NPDES permit, are developed to prevent pollution from animal pens and would further protect the water quality of High Bank Creek.

Impacts associated with the Proposed Action on the northern long-eared bat are not anticipated. This is the only mammalian species listed as endangered by FWS and identified by the FWS IPaC tool as known or expected to be present in the area of the Facility. There is no designated critical habitat for this species within the action area. Because the northern long-eared bat typically overwinter and breed in caves or mines and spend the remainder of the year in forested habitats and there are no known caves, mines or forested areas in the vicinity of the land application fields, land application will not impact habitat for the northern long-eared bat. The northern long-eared bat emerges at dusk to hunt the forest understory and feed on moths, flies, leafhoppers, caddisflies, beetles and arachnids that it catches midflight or gleans from vegetation or the ground. Because the northern long-eared bat feeds

in and near forested habitats, and because there are no forested areas near the Maher Facility land application areas, land application activities will not impact the northern long-eared bat. As a result, land application activities will have no effect on the northern long-eared bat. The Facility has already been constructed and thus, any tree clearing that might have accompanied construction has already occurred. The Proposed Action would not authorize new construction. Due to the absence of any northern long-eared bat habitat in the vicinity of the Facility and the nature of the Proposed Action, no effects to the northern long-eared bat are anticipated.

Alternative 3 - Issuance of NPDES Permit with Voluntary Best Management Practices (BMPs)

The issuance of an NPDES permit for the Facility with voluntary BMPs are expected to have similar impacts as Alternative 2 with the added benefit of improved plant communities. These improved plant communities may benefit mammals in the area.

4.3.2 Birds

Bird species that may occur in the vicinity of the project area are discussed in Section 3.3.2 and 3.4.

Alternative 1 - No Action

The No Action alternative would result in ongoing impacts to bird species found in and adjacent to the Facility. The No Action alternative would not likely result in any new impacts, as the area has been home to agricultural and/or ranching activities since before commencement of Facility CAFO operations. Additionally, as a CAFO operation, cattle are not authorized to be in or immediately adjacent to High Bank Creek, nor is the Facility allowed to discharge to High Bank Creek. Removing cattle from High Bank Creek and ceasing discharges to High Bank Creek could result in improved habitat and water quality in High Bank Creek and could improve the riparian areas adjacent to the creek.

Alternative 2 - Proposed Action, Issuance of an NPDES permit

The issuance of an NPDES permit for the Facility would result in improvements to water quality in High Bank Creek by requiring additional monitoring of water quality as part of the permit, requiring setbacks and other safeguards to protect High Bank Creek, and requiring development of a nutrient management plan to ensure manure application rates do not result in environmental harm. The NPDES permit would require quarterly monitoring upstream and downstream of the Facility to track water quality in High Bank Creek. application rates have not been documented, it is not clear whether the current application rates are resulting in environmental harm. However, under an NPDES permit, manure application rates would be calculated and monitored to reduce the likelihood of worsening environmental conditions. As with Alternative 1, cattle are not allowed to be in or immediately adjacent to High Bank Creek. However, under Alternative 2, the issuance of an NPDES permit also includes setbacks as a permit requirement. The setbacks, which are a mandatory component of the NPDES permit, are developed to prevent pollution from animal pens and would further protect the water quality of High Bank Creek.

Impacts associated with the Proposed Action on the piping plover, rufa red knot, and whooping crane are not anticipated.

Piping plovers nest on barren sand bars, islands, beaches, peninsulas, and other areas with little vegetative cover. Piping plovers primarily feed on small insects and other invertebrates found in open,

wet, sandy areas along lake shores and rivers. Very small numbers of rufa red knots migrate through South Dakota in early spring and fall to and from their breeding and nesting areas in the Arctic. While migrating, rufa red knots seek out beaches, sandbars, mudflats and shallow water, and feed on small insects and other invertebrates. Due to these migration, nesting and feeding behaviors, neither species will be present on agricultural lands subject to land application and land application will not result in discharges that could impact their habitat. As a result, land application will have no impact on either species under the Proposed Action.

The Proposed Action will have no effect on the piping plover because the action area does not include habitat suitable for use by the piping plover and even if it did, for the reasons described above, the Proposed Action would have no effect on an individual. The piping plover is not expected to occur in the action area due to the absence of developed shorelines and sandbars in and downstream of the Facility. Piping plover are more likely to be found downstream in the Missouri River. As described above, even if present, the species will not be affected by the Proposed Action. The Facility has already been constructed, and the Proposed Action does not authorize any new construction. The FWS has finalized critical habitat for this species but the IPaC report states that the action area does not overlap the designated critical habitat.

The Proposed Action will have no effect on the rufa red knot. The action area does not include habitat suitable for use by the rufa red knot and even if it did, for the reasons described above, the Proposed Action would have no effect on an individual. The rufa red knot is not expected to occur in the action area because it breeds and nests in the Arctic; overwinters along the Gulf, Atlantic and Pacific Coasts; and utilizes beaches, sandbars, mudflats and shallow water in South Dakota for foraging during migration stopovers. At most, this species would only use the action area as stopover habitat during migrations. As described above, even if present, the species will not be affected by this Proposed Action. The Facility has already been constructed, and the Proposed Action does not authorize any new construction. The FWS has proposed critical habitat for this species but the IPaC report states that this location does not overlap the proposed critical habitat.

Whooping cranes migrate in early spring and late fall between breeding grounds in northern Canada and wintering grounds in south Texas. During migration, whooping cranes may use a variety of habitats in South Dakota for foraging and roosting. Whooping cranes primarily use shallow, seasonally and semi-permanently flooded palustrine wetlands for roosting, and various cropland and emergent wetlands for feeding. Foods utilized during migration include frogs, fish, plant tubers, crayfish, insects, and agricultural grains. Because whooping cranes use harvested grain fields as a food supply, and Maher Facility identified several grains as alternative crops in its nutrient management plan (NMP), whooping cranes could forage in harvested fields used for land application. However, because whooping cranes forage on harvested (i.e., non-vegetated) fields, they would be foraging during periods in which Maher Facility would be required to mechanically incorporate any applied wastewaters or solids. Whooping cranes avoid areas close to human activity during migration and, as a result, will avoid land application fields during active land application and mechanical incorporation, both of which involve human activity. Because there will be no interaction between whooping cranes and land application activity, such activity will not impact whooping cranes. Because mechanical incorporation of land-applied materials into soils is required during the times when whooping cranes may forage, whooping cranes will not be directly exposed to land-applied materials. Because chemical handling requirements in the NMP prevent agricultural chemicals from entering wastewater lagoons and manure piles, such chemicals will not be present on land application fields where whooping cranes

may forage. As a result, land application will have no effect on whooping cranes under the Proposed Action.

The Proposed Action will have no effect on the whooping crane. The action area includes some habitat suitable for use by the whooping crane, but for the reasons described above, the Proposed Action would have no effect on an individual. The whooping crane typically utilizes shallow, seasonally and semi-permanently flooded palustrine wetlands for roosting, and various cropland and emergent wetlands for feeding. Cropland is present in the action area and this species could use this area as stopover habitat during migrations. As described above, even if present, the species will not be affected by the Proposed Action. The Facility has already been constructed, and the Proposed Action does not authorize any new construction. The FWS has finalized critical habitat for this species but the IPaC report states that this location does not overlap the designated critical habitat.

These are the only federally listed bird species around the Facility. There is no designated critical habitat for any of these species within the action area. While the Proposed Action is anticipated to have a positive impact on bird species present in the Facility area due to the anticipated improvement of riparian habitat, the absence of viable habitat for the listed species and the nature of the Proposed Action, which would impose further regulatory requirements on the existing Facility, no effects to the piping plover, rufa red knot, or the whooping crane are anticipated.

Alternative 3 - Issuance of NPDES Permit with Voluntary BMPs

The issuance of an NPDES permit for the Facility with voluntary BMPs are expected to have similar impacts as Alternative 2 with the added benefit of improved plant communities. These improved plant communities may benefit birds in the area.

4.3.3 Fish

Fish species that may occur in the vicinity of the project area are discussed in Section 3.3.3.

Alternative 1 - No Action

The No Action alternative would result in ongoing impacts to any fish species found in and adjacent to the Facility. While no fish surveys have been completed as part of this analysis, the modifications to the stream channel by the Facility have altered stream flow and hydrodynamics of High Bank Creek and the discharge of unpermitted wastewater has resulted in elevated nutrients in High Bank Creek (Appendix D). The No Action alternative would not likely result in any new impacts, as the area has been home to agricultural and/or ranching activities since before commencement of Facility CAFO operations. Additionally, as a CAFO operation, cattle are not authorized to be in or immediately adjacent to High Bank Creek, nor is the Facility allowed to discharge to High Bank Creek. Removing cattle from High Bank Creek and ceasing discharges to High Bank Creek could result in improved habitat and water quality for fish living in High Bank Creek and could improve the riparian areas adjacent to the creek.

Alternative 2 - Proposed Action, Issuance of an NPDES permit

The issuance of an NPDES permit for the Facility would result in improvements to water quality in High Bank Creek by requiring additional monitoring of water quality as part of the permit, requiring setbacks and other safeguards to protect High Bank Creek, and requiring development of a nutrient management plan to ensure manure application rates do not result in environmental harm. The NPDES permit would require quarterly monitoring upstream and downstream of the Facility to track water

quality in High Bank Creek. Since current application rates have not been documented, it is not clear whether the current application rates are resulting in environmental harm. However, under an NPDES permit, manure application rates would be calculated and monitored to reduce the likelihood of worsening environmental conditions. As with Alternative 1, cattle are not allowed to be in or immediately adjacent to High Bank Creek. However, under Alternative 2, the issuance of an NPDES permit also includes setbacks as a permit requirement. The setbacks, which are a mandatory component of the NPDES permit, are developed to prevent pollution from animal pens and would further protect the water quality and aquatic habitat of High Bank Creek.

Alternative 3 - Issuance of NPDES Permit with Voluntary BMPs

The issuance of an NPDES permit for the Facility with voluntary BMPs are expected to have similar impacts as Alternative 2 with some added benefits. In addition, if Maher chose to implement voluntary BMPs discussed above in Section 2.1.3, impacts to water resources would be further improved by reducing or eliminating the TSS, nutrients, or chemicals to High Bank Creek that can impact aquatic life.

4.3.4 Invertebrates

Invertebrate taxa that may occur in the vicinity of the project area are discussed in Section 3.3.4.

Alternative 1 - No Action

The No Action alternative would result in ongoing impacts to terrestrial or aquatic invertebrate species found in and adjacent to the Facility. The No Action alternative would not likely result in any new impacts, as the area has been home to agricultural and/or ranching activities since before commencement of Facility CAFO operations. Additionally, as a CAFO operation, cattle are not authorized to be in or immediately adjacent to High Bank Creek, nor is the Facility allowed to discharge to High Bank Creek. Removing cattle from High Bank Creek and ceasing discharges to High Bank Creek will result in improved habitat and water quality in High Bank Creek and will improve the riparian areas adjacent to the creek.

Alternative 2 - Proposed Action, Issuance of an NPDES permit

The issuance of an NPDES permit for the Facility would result in improvements to water quality in High Bank Creek by requiring additional monitoring of water quality as part of the permit, requiring setbacks and other safeguards to protect High Bank Creek, and requiring development of a nutrient management plan to ensure manure application rates do not result in environmental harm. The NPDES permit would require quarterly monitoring upstream and downstream of the Facility to track water quality in High Bank Creek. Since current application rates have not been documented, it is not clear whether the current application rates are resulting in environmental harm. However, under an NPDES permit, manure application rates would be calculated and monitored to reduce the likelihood of worsening environmental conditions. As with Alternative 1, cattle are not allowed to be in or immediately adjacent to High Bank Creek. However, under Alternative 2, the issuance of an NPDES permit also includes setbacks as a permit requirement. The setbacks, which are a mandatory component of the NPDES permit, are developed to prevent pollution from animal pens and would further protect the water quality of High Bank Creek.

Impacts associated with the Proposed Action on the monarch butterfly, western regal fritillary, and Suckley's cuckoo bumble bee are not anticipated.

The Proposed Action is not likely to jeopardize the continued existence of the monarch butterfly or result in the destruction or adverse modification of proposed critical habitat. The action area does not include habitat suitable for use by the monarch butterfly and even if it did, for the reasons described above, the Proposed Action would have no effect on an individual. The monarch butterfly is not expected to occur in the action area because it typically utilizes milkweed plants for the caterpillars and nectar-rich flowering plants for the adult butterflies which is not present in the action area. As described above, even if present, the species will not be affected by this Proposed Action. The Facility has already been constructed, and the Proposed Action does not authorize any new construction. The FWS has proposed critical habitat for this species but the IPaC report states that this location does not overlap the proposed critical habitat.

The proposed action is not likely to jeopardize the continued existence of the Suckley's cuckoo bumble bee or result in the destruction or adverse modification of proposed critical habitat. On December 17, 2024, the Suckley's cuckoo bumble bee (*Bombus suckleyi*) was proposed for listing as an endangered species (FWS, 2024b). Suckley's is an obligate social parasite of social bumble bees in the genus *Bombus*. This species cannot successfully reproduce without the availability of suitable host colonies. It is a semi-specialist parasite and confirmed to usurp nests of western bumble bee (*Bombus occidentalis*) and Nevada bumble bee (*Bombus nevadensis*).

Based on the best available information, no Suckley's cuckoo bumble bee have been observed in South Dakota since 1969 despite recent all taxa bumble bee surveys across the entire state (Martens et al., 2022). Based on this information, FWS considers the Suckley's cuckoo bumble bee to be extirpated from South Dakota. The action area does not include habitat suitable for use by the Suckley's cuckoo bumble bee and even if it did, for the reasons described above, the Proposed Action would have no effect on an individual species. The FWS has not proposed critical habitat for this species.

The Proposed Action is not likely to jeopardize the continued existence of the western regal fritillary or result in the destruction or adverse modification of proposed critical habitat. The action area does not include habitat suitable for use by the western regal fritillary and even if it did, for the reasons described above, the Proposed Action would have no effect on an individual. The western regal fritillary is not expected to occur in the action area because it typically utilizes tallgrass prairies, native pastures, and other open grassland areas with a high density of violets (the sole larval food source) and abundant native nectar-producing flowers for the adults, such as milkweeds, coneflowers, and thistles. As described above, even if present, the species will not be affected by this Proposed Action. The Facility has already been constructed, and the Proposed Action does not authorize any new construction. The FWS has not proposed critical habitat for this species.

These are the only proposed federally listed invertebrate species around the Facility. There is no designated critical habitat for the Suckley's cuckoo bumble bee and no designated critical habitat for monarch butterfly or western regal fritillary within the action area. While the Proposed Action is anticipated to have a positive impact on invertebrate species present in the Facility area due to the anticipated improvement of riparian habitat, the absence of viable habitat for the proposed federally-listed species and the nature of the Proposed Action, which would impose further regulatory requirements on the existing Facility, no effects to the monarch butterfly, western regal fritillary, and Suckley's cuckoo bumble bee are anticipated.

Alternative 3 - Issuance of NPDES Permit with Voluntary BMPs

The issuance of an NPDES permit for the Facility with voluntary BMPs are expected to have similar impacts as Alternative 2 with some added benefits. In addition, if Maher chose to implement voluntary BMPs discussed above in Section 2.1.3, impacts to water resources would be further improved by reducing or eliminating the TSS, nutrients, or chemicals to High Bank Creek that can impact aquatic invertebrates.

4.3.5 Culturally significant plant and animal species

Alternative 1 - No Action

Under the No Action alternative, the Facility would not be authorized to discharge because no NPDES permit would be issued. Impacts discussed in Section 4.2.1 Water Resources for water quality would similarly affect culturally significant plant and animal species. These species are known to exist in the High Bank Creek watershed and rely on water for survival either directly or indirectly through the food chain, which makes them susceptible to impacts on the quality of water in High Bank Creek. The No Action alternative, with its absence of any permit-required management practices to reduce the likelihood of discharges, may result in more discharge of pollutants than the other alternatives, which means it would likely result in the most negative impacts to culturally significant plant and animal species found downstream from the Facility's discharge.

Alternative 2 - Proposed Action, Issuance of NPDES Permit

The issuance of an NPDES permit for the Facility would result in improvements to water quality in High Bank Creek by requiring additional monitoring of water quality as part of the permit, requiring setbacks and other safeguards to protect High Bank Creek, and requiring development of a nutrient management plan to ensure manure application rates do not result in environmental harm. This would likely reduce impacts on culturally significant plant and animal species that are aquatic dependent, relative to the no action alternative.

Alternative 3 - Issuance of NPDES Permit with Voluntary BMPs

The issuance of an NPDES permit for the Facility with voluntary BMPs is expected to have similar impacts as Alternative 2 with some added benefits to the environment in and around the Facility, which would further reduce any impact on culturally significant plant and animal species that are aquatic dependent.

4.4 Socioeconomic Environment

The following section focuses on the proposed action impacts on the economic environment and human health/public health.

4.4.1 Economic Environment

As discussed in Section 3.5.1 Economic Environment, 18.1% of residents in Timber Lake and 45.2% of residents in Corson County were below the federal poverty level (U.S. Census Bureau, 2023c, 2023d).

Alternative 1 - No Action

The No Action alternative would result in no change in the local economic environment beyond the existing potential impacts from the current operations of the Facility. The CAFO Facility will still exist, and operations would likely continue as before.

Alternative 2 - Proposed Action, Issuance of NPDES permit

The issuance of an NPDES permit for the Facility would have no direct effect on the local economic environment. The Proposed Action Alternative would likely improve water quality in High Bank Creek due to maintenance, animal isolation from stormwater, regular inspections, and other requirements discussed in Section 2.1.2 Alternative 2 and water impacts discussed in Section 4.2.1 Water Resources. Potential water quality improvements due to the issuance of the NPDES permit may prevent some of the adverse human health impacts of pollution migration associated with weather events such as flooding and drought.

Alternative 3 - Issuance of NPDES permit with Voluntary Best Management Practices (BMPs)

The issuance of an NPDES Permit with Voluntary BMPs would have no direct effect on the local economic environment. There is the potential for minor indirect positive economic impacts under this alternative if local workers are hired to conduct the associated maintenance, construction, and inspections.

4.4.2 Human Health/Public Health

CAFOs pose potential health risks for those working at the facility and nearby. Wastewater discharges could increase the risk of waterborne illnesses such as *E. coli*. It is expected that potential adverse human health outcomes are avoided or minimized by the issuance of an NPDES permit based on the impact discussions presented in Sections 4.2.1 Water Resources and 4.3 Biological Resources. The evidence showing an association between CAFO emissions and health impacts to nearby communities is more uncertain, as discussed in Section 3.5.2 Human Health/Public Health.

Alternative 1 - No Action

Under this alternative, the CAFO Facility could continue to operate and would not be authorized to discharge. However, NPDES requirements that reduce impacts in the event of a discharge of pollutants to waters of the U.S. would not be imposed through a permit issued by the EPA. If the Facility successfully prevents all discharges, this alternative is in accordance with section 301(a) of the Clean Water Act and would not impact human health. If discharges or accidental releases occur, there is the potential for ongoing associated human health impacts. Refer to Section 3.5.2 Human Health/Public Health and 3.2.1 Water Resources for impact discussions of water quality and associated potential adverse health effects, including from exposure to *E. coli* and high ammonia concentrations. This alternative is not expected to have an impact on emissions and any potential associated health impacts.

Alternative 2 - Proposed Action, Issuance of NPDES permit

The issuance of an NPDES permit for the Facility would improve water quality in High Bank Creek and further protect human/public health based on the impact discussions presented in Sections 3.5.2

Human Health/ Public Health and 3.2.1 Water Resources. This alternative is not expected to have an impact on emissions and any potential associated health impacts.

Alternative 3 - Issuance of NPDES permit with Voluntary Best Management Practices (BMPs)

Similar to Alternative 2, the issuance of an NPDES permit along with voluntary BMPs would provide additional benefits to the overall human/public health and environment in High Bank Creek. Refer to Section 2.1.3 Alternative 3- Issuance of NPDES Permit with Voluntary Best Management Practices (BMPs) for potential outcomes that could be accomplished by adopting practices. The voluntary grazing BMPs would reduce the risk of pathogens entering the water supplies and soil, including actions to reduce or eliminate the transportation of sediment, nutrients, pathogens, or chemicals to surface and/or ground water and improve or maintain soil health components and indicators. The voluntary odor and dust control BMPs would BMPs could reduce particulate matter, ammonia, hydrogen sulfide, and other air pollutants. Because the evidence showing an association between CAFO emissions and health impacts to nearby communities is more uncertain, it is unlikely this alternative would have an impact on emissions and any potential associated health impacts.

4.4.3 Tribal Cultural Practices

Alternative 1 – No Action

If the EPA does not issue an NPDES permit to Maher, the Facility could still continue operating within the footprint it occupied prior to the EPA's action. None of the evaluated alternatives would affect the property boundaries of the Facility or any other land within the Tribe's reservation.

Alternative 2 - Proposed Action, Issuance of NPDES permit

If the EPA issues an NPDES permit to Maher, the Facility's implementation of pollution management and monitoring practices would not change the footprint it occupied prior to the EPA's action. None of the evaluated alternatives would affect the property boundaries of the Facility or any other land within the Tribe's reservation.

Alternative 3 - Issuance of NPDES permit with Voluntary Best Management Practices (BMPs)

If the EPA issues an NPDES permit to Maher, the Facility's implementation of pollution management and monitoring practices, in addition to voluntary BMPs, would not change the footprint it occupied prior to the EPA's action. None of the evaluated alternatives would affect the property boundaries of the Facility or any other land within the Tribe's reservation.

4.5 Tribal Treaty Rights

Alternative 1 - No Action

The EPA concludes that the no action alternative, Alternative 1, would not adversely affect any treaty rights asserted by the Tribe, given that Alternative 1 would not change the current operation of the Facility.

Alternative 2 - Proposed Action, Issuance of NPDES permit

Overall, the Tribe's input during the Tribal consultation process and public comments raised concerns that the Facility negatively impacts the water and air in the Tribe's reservation, as well as the people, fish, animals and plants that rely on the water and air in the reservation. The EPA has determined that permit issuance would likely improve water quality in High Bank Creek compared to the no action alternative of EPA not issuing a permit to Maher as it continues to operate. The Facility currently lacks an NPDES permit, and therefore issuing the NPDES permit would likely improve water quality as compared to the status quo. The permit would thereby likely reduce or have no impacts to people, fish, animals and plants that rely upon High Bank Creek, or upon downstream waters. See sections 4.2.1, 4.3 and 4.4.2. The EPA also has determined that permit issuance would result in no change in air quality, see section 4.2.2, and therefore permit issuance would not be expected to adversely impact public health. As a result, the EPA concludes that issuance of the permit would not adversely affect any treaty rights asserted by the Tribe.

Alternative 3 - Issuance of NPDES permit with Voluntary Best Management Practices (BMPs)

Similar to Alternative 2, the issuance of an NPDES Permit with Voluntary BMPs would not adversely affect any treaty rights asserted by the Tribe.

4.6 Alternatives Summary

As discussed in Section 2 Alternatives, the EPA considered three alternatives for the NPDES permit in this EA. Alternatives considered include the following: a no action alternative (Alternative 1), issuance of an NPDES permit for the Facility (Alternative 2), and issuance of an NPDES permit with voluntary best management practices (Alternative 3).

4.6.1 Alternative 1: No Action

Under the no-action alternative, the EPA would not issue the NPDES permit. Some of the conditions described in Chapter 3, Affected Environment, capture periods when the Facility was discharging without an NPDES in violation of Section 301(a) of the Clean Water Act. Those conditions would be improved under this alternative because the CAFO Facility will still exist, but it would not be authorized to discharge. NPDES requirements that reduce impacts in the event of a discharge of pollutants to waters of the U.S. would not be imposed through a permit issued by the EPA. The effects of this alternative would be as described under each subsection discussion of Alternative 1 in Chapter 4, Environmental Consequences.

4.6.2 Alternative 2: Proposed Action – Issuance of NPDES Permit

Under Alternative 2, the EPA would issue an NPDES permit to the Facility for discharges of pollutants into waters of the U.S. NPDES requirements that reduce impacts in the event of a discharge of pollutants to waters of the U.S. would be imposed through the NPDES permit. The effects of this alternative would be as described under each subsection discussion of Alternative 2 in Chapter 4, Environmental Consequences.

4.6.3 Alternative 3: Proposed Action – Issuance of NPDES Permit with Voluntary Best Management Practices (BMPs)

Under Alternative 3, the EPA would issue an NPDES permit to the Facility as described in Alternative 2. Additionally, Maher would implement additional voluntary BMPs listed in the NRCS National Conservation Practice Standard for Prescribed Grazing (Code 528) in Appendix A. Maher would also work with NRCS to implement voluntary BMPs for manure and dust management to reduce odors and airborne particles. The effects of this alternative would likely be improved water quality, air quality, and animal habitat as described under discussion of Alternative 3 in Chapter 4, Environmental Consequences. The EPA does not have the authority to require these voluntary BMPs in an NPDES permit.

4.7 Comparison of Alternatives

The basic difference between the alternatives are two variations of action versus no action. Alternative 1 represents the conditions of the Facility without any NPDES requirement besides a blanket prohibition on discharge. The preferred action alternative (Alternative 2) represents authorizing discharge in limited circumstances (a 25-year 24-hour flood event) and requiring additional practices to protect the water quality of High Bank Creek. The other action alternative (Alternative 3) represents a similar condition to Alternative 2 with additional water quality, air quality, and animal habitat benefits that the EPA cannot require in an NPDES permit. The anticipated impacts associated with Alternative 2 represent the most improvement in resources the EPA can require compared to the no action alternative. The EPA believes the NPDES permit, Alternative 2, will have adequate provisions to avoid or minimize potentially significant environmental impacts.

4.8 Preferred Alternative

The EPA selected Alternative 2 as the preferred alternative. The effects of the no action alternative are that the CAFO Facility would still exist and would not be allowed to discharge; however, the absence of an authorization to discharge does not generally ensure a facility will employ any pollution management practices to prevent a discharge. In contrast, an NPDES permit would require beneficial management practices and pollution controls, such as:

- Weekly inspections of stormwater diversion devices, channels, manure storage areas, and containment structures,
- Construction of manure holding lagoons that meet U.S. Department of Agriculture Natural Resources Conservation Service engineering requirements,
- Weekly inspections of manure holding lagoons,
- Measurement manure depth in holding lagoons and maintain adequate freeboard to prevent overflows,
- Maintenance of a rain gauge on site with logs of measurable rainfall,
- Isolation of animal containment areas from stormwater run-on from outside surface drainage,
- Proper disposal of mortalities such that they do not contaminate surface waters,
- Prohibition of animals from coming into direct contact with surface water,
- Requirements for holding pens to be constructed outside the 100-year flood plain,
- Required best management practices (BMPs) for land application including:

- Development and implementation of a nutrient management plan, which requires manure to be applied at an agronomic rate, soil sampling,
- Inspections of land application equipment for leaks,
- Not applying during frozen or saturated soil conditions,
- Implementation of setbacks, buffers and other controls to prevent runoff from fields along, and
- Monitoring for any discharges during land application,
- Reporting any discharges to the EPA and also to the Tribe, and
- Annual reporting to the EPA and to the Tribe.

The proposed NPDES Individual Permit, Alternative 2, will require provisions that are sufficiently protective of the surface waters and resources of the surrounding area. If Maher complies with the proposed Individual Permit, the EPA does not expect any discharge from the Facility to significantly degrade the environmental resources of the Standing Rock Indian Reservation or the Cheyenne River Indian Reservation. In addition, the proposed EPA Individual Permit, Alternative 2, has a re-opener provision that authorizes EPA to modify the NPDES permit as necessary in response to new information demonstrating the provisions of the proposed Individual Permit are inadequately protective of these resources.

Alternative 3 contains voluntary BMPs the EPA cannot require in an NPDES permit.

4.9 Unavoidable Adverse Impacts

The NPDES individual permit discharges from the Facility during a 25-year, 24-hour storm event are expected to have unavoidable minor impacts, primarily in the vicinity of the proposed Facility. For the most part, these impacts would be short-term in nature, rare, limited to spatial extent, and expected to have a low likelihood to result in impacts.

4.10 Irreversible and Irretrievable Commitments of Resources

The National Environmental Policy Act Section 102 (2)(C)(v) requires a detailed statement on any irreversible and irretrievable commitments of federal resources that would be involved in the proposed action should it be implemented. Irreversible and irretrievable resource commitments are related to the use of non-renewable resources and the effects that the use of those resources have on future generations. Irreversible commitments of resources are those that cannot be reversed except over an extremely long period of time. These irreversible effects primarily result from the destruction of a specific resource (e.g., energy and minerals) that cannot be replaced within a reasonable time frame. Irretrievable resource commitments involve the loss in value of an affected resource that cannot be restored as a result of the action.

The proposed action would constitute an irreversible or irretrievable commitment of non-renewable or depletable resources, for the materials, time, money, and energy expended during activities implementing some of the permit requirements. Under the no-action alternative, there would be no irreversible and irretrievable commitments of federal resources. Irreversible and/or irretrievable impacts of federal resources for the proposed action are noted below.

The May 7, 2024, Administrative Compliance Order on Consent (Appendix B) required Maher to complete some construction activities. These included removing part of the yearling pen through which High Bank Creek flowed; removing all manure from the pen; regrading to ensure bank stabilization; seeding the bank to ensure vegetative cover; and constructing adequate containment and storage structures to contain all manure, litter, and process wastewater including the runoff and direct precipitation from a 25-year, 24-hour rainfall event from all yearling pens. Additional construction is not expected to be required.

Consumption of fossil fuels and energy would occur during operation and maintenance activities to comply with some permit requirements (e.g., pumping of manure from the holding lagoon to maintain adequate freeboard and land application). Fossil fuels (gasoline and diesel oil) would be used to power vehicles, manure pumps, and manure spreaders. The energy consumed for operation and maintenance activities required by the permit represents a permanent and non-renewable commitment of these resources. Operation and maintenance activities are considered a long-term non-renewable investment of these resources.

Surface disturbances are expected to be temporary and are not expected to be an irreversible and irretrievable resource commitment. There would also be commitment of time and money for the planning, permitting, and implementation of permit requirements.

4.11 Findings

Issuing an NPDES permit under Alternative 2 likely improves impacts on the environment from the Facility. If an NPDES permit is not issued by the EPA, the Facility could continue to operate and impacts to relevant resources likely would be more adverse than if the EPA issues an NPDES permit with the specified conditions and requirements. Based on the environmental impact analysis in the EA, and pursuant to 40 C.F.R. § 6.206, the EPA has determined that no significant environmental impacts are anticipated from the issuance of the NPDES permit and the proposed action does not constitute a major Federal action significantly affecting the quality of the human environment, making the preparation of an Environmental Impact Statement (EIS) unnecessary.

5 Other Protective Measures and Agency Coordination Efforts

The proposed NPDES permit, and authorization include several conditions, terms, and provisions that are protective measures against potential environmental consequences of the proposed action. The EPA must consult with other federal agencies and Tribal entities and complete other actions prior to issuing any permit. These additional efforts include the following:

- National Historic Preservation Act
- Consideration of CWA Section 401

Note that ESA consultation is not required prior to issuing a permit to Maher, as discussed below.

5.1 National Historic Preservation Act (NHPA)

Under 16 U.S.C. 470 et seq. Section 106 of the NHPA and its implementing regulations (36 C.F.R. Part 800) require the Regional Administrator, before issuing a license (permit), to adopt measures when feasible to mitigate potential adverse effects of the licensed activity and properties listed or eligible for listing in the National Register of Historic Places. The Act's requirements are to be implemented in cooperation with state historic preservation officer(s) and tribal historic preservation officer(s) and upon notice to, and when appropriate, in consultation with the Advisory Council on Historic Preservation. In addition, the Act requires local government officials, permit applicants, and certain individuals with a demonstrated interest to be involved in consultation.

The area of potential effect (APE) for consideration includes the footprint of the Maher production area and its discharge points into High Bank Creek. As discussed in Section 4.2.1, the proposed action of issuing an NPDES permit would authorize discharges from Maher only during extremely rare high-precipitation events, during which any pollutants discharged would be immediately diluted by high flows in High Bank Creek due to runoff from surrounding areas in the watershed. Therefore, any harm sustained by historic properties outside the APE would be due to the volume of water already in the creek rather than from pollution discharged by the Maher Facility. Although the area under control of the Maher Facility includes fields designated for land application of animal waste, those fields are not included within the APE because, as agricultural crop fields, they have already been tilled and disturbed with respect to any pre-existing historic properties.

On April 22, 2024, the EPA offered consultation to the Standing Rock Sioux Tribe and Cheyenne River Sioux Tribe. These Tribal consultation offers included an offer consultation in accordance with Section 106 of the NHPA. A consultation meeting was held with the Standing Rock Sioux Tribe on August 13, 2024. The Standing Rock Sioux Tribe generally raised concerns with practices being compromised by non-Tribal citizen activities within the reservation. No specific historic properties within the APE were identified, such as archeological sites, burial grounds, sacred landscapes or features, ceremonial areas, traditional cultural places and landscapes, plant and animal communities, or buildings and structures with significant tribal association. The Cheyenne River Sioux Tribe did not request consultation.

The EPA reached out to the Standing Rock Sioux Tribe THPO on June 13, 2024; June 17, 2024; June 18, 2024; July 2, 2024; July 8, 2024; April 14, 2025; April 16, 2025; April 24, 2025; August 7, 2025; and August 11, 2025 to gather information on potential historic properties such as archeological sites, burial grounds, sacred landscapes or features, ceremonial areas, traditional cultural places and landscapes, and buildings and structures with significant Tribal association. No potential historic

properties were identified. The EPA also reached out to the Standing Rock Sioux Tribe THPO for information on seek information on potential historic properties culturally sensitive plant and animal species. No information has been provided by the Standing Rock Sioux Tribe THPO on culturally sensitive plants and animal species (EPA, 2025c).

On July 31, 2025, the EPA met in-person with Dr. Mafany Mongoh, Institutional Review Board Chair and professor at Sitting Bull College. Dr. Mongoh shared information on culturally sensitive species, Tribal knowledge, and referred the EPA to the THPO contact for more information about historic properties (EPA, 2025a).

The EPA reached out to Tyrel Iron Eyes, Tribal Archeologist with the Standing Rock Sioux Tribe, on November 4 and 7, 2025, requesting information on any culturally sensitive species, such as plants, animals, burial sites, ancient sites, etc. in the area of the Maher Facility. Mr. Iron Eyes confirmed that he could provide such information, but no information was provided (EPA, 2025c).

The EPA communicated with multiple staff within the Standing Rock Sioux Tribe Game & Fish Department on November 7 and 13, 2025, inquiring about hunting and fishing practices in the vicinity of the Facility and whether any sensitive species are known to exist near the Facility. Although the Tribe's issuance of hunting and fishing licenses does not provide granular information about the presence of sensitive or otherwise important game or fish species within the action area, these staff referred the EPA to Dr. Mike Gutzmer, Tribal Biologist and Principal of New Century Environmental. In a November 14, 2025, phone call, Dr. Gutzmer explained that species of special significance to the Tribe, which can be found in the High Bank Creek watershed, include mammals (buffalo, black-footed ferrets, and black-tailed prairie dog) and birds (bald and golden eagles); see Section 3.3 for more details. Dr. Gutzmer also reiterated information about threatened and endangered species that EPA had already obtained from the conversations with FWS and the FWS's Information for Planning and Consultation (IPaC) online database (EPA, 2025c).

Other information gathered on culturally sensitive plant and animal species is discussed in Sections 3.4 and 4.3.5.

The EPA reached out to the Cheyenne River Sioux Tribe THPO to seek information on potential historic properties. No information was provided.

The EPA searched the National Register of Historic Places for properties listed, or eligible for listing, in the National Register of Historic Places (National Park Service 2017, 2025). This search revealed ten sites in Corson County and five in Dewey County, with the nearest historic property approximately ten miles from the APE in the town of Timber Lake, South Dakota. None of the sites are within the APE or downstream of Maher and would therefore not be impacted by any discharges to High Bank Creek.

The EPA searched for and found no past federal agency actions in the area.

Given the distance of the nearest identified historic property, lack of any identified historic properties in the APE, and the anticipated water quality improvements of issuing an NPDES permit (Alternative 2), the EPA determined that the undertaking will not adversely affect any cultural resources or historic properties.

5.2 Section 7 ESA Coordination

16 U.S.C. 1531 et seq. Section 7(a)(2) of the ESA requires that federal agencies consult with the ESA administering services to ensure that any projects authorized, funded, or carried out by them are not likely to jeopardize the continued existence of any endangered species or threatened species, or result in the destruction or adverse modification of critical habitat of such species.

The EPA had informal discussions and email exchanges with the South Dakota U.S. Fish and Wildlife Service (FWS) field office representative regarding this potential permit. Based on data from FWS's Information for Planning and Consultation (IPaC) online database and informal discussions with FWS, the EPA determined a permit would have "no effect" on endangered and threatened species. The details of this determination are included in the draft Statement of Basis for the draft permit. Information is also included in Sections 4.3.1, 4.3.2, and 4.3.4, above. Because a "no effect" determination was made, consultation with FWS is not required.

5.3 CWA Section 401

Under CWA Section 401, a federal agency cannot issue a permit or license for an activity that may result in a discharge to waters of the U.S. until the state or tribe where the discharge would originate has granted or waived CWA Section 401 certification. CWA Section 401 certification provides states and authorized Tribes with an effective tool to help protect state or Tribal aquatic resources. In the absence of an authorized state or Tribe, the EPA is the certifying authority. The certifying authority, in exercising CWA Section 401 certification authority, decides whether the licensed or permitted activity will be consistent with water quality requirements. The certifying authority may grant, condition, deny or waive certification. 40 C.F.R. § 121.7(a). Under CWA Section 401(d), the licensing or permitting agency, which is also the EPA in this case, must include in the license or permit any conditions identified in the Section 401 certification as necessary to ensure compliance with the relevant water quality requirements.

The EPA is the Clean Water Act Section 401 certifying authority on the Standing Rock Indian Reservation, because the Standing Rock Sioux Tribe had not received authorization to implement Section 401 of the Clean Water Act. The EPA will complete the Section 401 certification process as the certifying authority prior to issuing any permit.

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7 Public Notice

The EPA provided the public with an opportunity to review and comment on this EA during a 45-day public comment period, which was extended another five days. The notice of availability for the EA was published on the EPA's website at <https://www.epa.gov/npdes-permits/south-dakota-npdes-permits>. In addition, the EPA notified interested parties, including the Standing Rock Sioux Tribe leadership and staff by email.

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This EA was prepared by the EPA Region 8 office with the assistance of contractors from the Avanti Corporation, a federal contractor.

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For the following appendices, see the accompanying enclosures:

Appendix A – Natural Resources Conservation Service (NRCS) National Conservation Practice Standard for Prescribed Grazing (Code 528)

Appendix B – Administrative Compliance Order on Consent, May 7, 2024 (Docket No. CWA-08-2024-0005)

Appendix C – Maher Inspection Report, July 14, 2022

Appendix D – Maher Sampling Inspection Report, June 27, 2023

Appendix E – EPA Response to Comments Received During Public Notice of the Draft Environmental Assessment for Maher Cattle Company, LLC, and Response to Input Received During Tribal Consultation